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1st Ed. 1786





MEDICAL CAUTIONS,

CHIEFLY FOR THE

CONSIDERATION

OF

INVALIDS.

MEDICAL CAUTIONS

CONSIDERATION

IN VALLIS

MEDICAL CAUTIONS; CHIEFLY FOR THE CONSIDERATION O F I N V A L I D S.

CONTAINING
E S S A Y S

O N

Fashionable Diseases	On Quacks,
The dangerous Effects of	Quack Medicines,
Hot and Crouded Rooms.	and Lady Doctors.
An Enquiry into the Use of	AND
Medicine during a Course	An Essay on REGIMEN,
of Mineral Waters.	very much enlarged.

THE SECOND EDITION.

TO WHICH ARE NOW ADDED,

APPENDIX I. Containing farther Animadversions on a celebrated Quack Medicine, and Remarks on the Medical Powers and Use of the DULCIFIED ACIDS.

APPENDIX II. An Essay on THERAPEUTICS.

PUBLISHED FOR THE BENEFIT OF

THE GENERAL HOSPITAL AT BATH.

By JAMES MAKITTRICK ADAIR, M. D.

Member of the Royal Medical Society,

And Fellow of the Royal College of Physicians, Edinburgh.

Nullius addictus jurare in verba magistri.

Hor. Lib. I. Ep. I.

BATH, PRINTED BY R. CRUTTWELL;

AND SOLD BY

C. DILLY, POULTRY, LONDON; AND BY ALL THE
BOOKSELLERS IN BATH.

MDCCLXXXVII.



TO THE
RIGHT HONOURABLE
THE PRESIDENT,
AND
THE GOVERNORS
OF
THE GENERAL HOSPITAL AT BATH,
THIS SECOND EDITION
OF
MEDICAL CAUTIONS

IS VERY RESPECTFULLY DEDICATED

BY

THE AUTHOR.

Bath, April 16th, 1787.



THE UNIVERSITY OF CHICAGO

PHYSICS DEPARTMENT

PHYSICS 354

LECTURE 1

THEORY OF QUANTUM MECHANICS

PROFESSOR J. J. THORPE

LECTURE 2

THEORY OF QUANTUM MECHANICS

PROFESSOR J. J. THORPE

LECTURE 3

THEORY OF QUANTUM MECHANICS

PROFESSOR J. J. THORPE

LECTURE 4

THEORY OF QUANTUM MECHANICS

PROFESSOR J. J. THORPE

INSCRIPTION *in the Pump-Room, Bath.*

“ The HOPITAL in this City,
Appropriated solely to BATH CASES,
And open to the Poor and Afflicted
of every Part of the World,

(Bath only excepted)

Being destitute of a Fund in any degree
adequate to its Support,

Is most earnestly recommended to the
Patronage and Protection of the Humane
and Liberal Part of Mankind.

“ OH! pause awhile, whoe’er thou art
That drink’st this healing stream:—
If e’er Compassion o’er thy heart
Diffus’d its heavenly beam,

Think on the wretch, whose distant lot
This friendly aid denies;
Think how in some poor, lonely cot
He unregarded lies!

Hither

Hither th' afflicted Stranger bring,
 Relieve his heartfelt Woe,
 And let thy Bounty, like this Spring,
 In genial Currents flow.

So be thy Years from Want, and Pain,
 And pining Sicknefs free,
 And thou from Heav'n that Debt obtain
 The poor Man owes to thee."

The author of the above inscription, and of the verses annexed, is a very ingenious, learned, and truly respectable gentleman of this city; who, by these lines, his Monody on the death of the Marquis of Tavistock, his Bath Guide, Election Ball, &c. has given the most incontrovertible proofs of superior excellence, not only in the pathetic, but the humorous stile of poetry:—A rare instance of poetical genius!

IT may be proper to observe, that this excellent Institution incurs an annual expence of one thousand eight hundred pounds, whilst its permanent revenue does not exceed five hundred pounds.

PREFACE.

P R E F A C E.

THE first edition of the Medical Cautions having been so rapidly sold off, as to have been many months out of print; the author has been induced to publish a second.

Some additions have been made to the Essay on Fashionable Diseases; and the author has the pleasure of knowing that the justice of his strictures has not only been acknowledged by some of the profession, but has afforded full conviction to several invalids.

It is with much satisfaction he understands that his Second Essay has induced several persons to obviate the bad effects of hot and foul air, by adopting the expedients he proposed; and he flatters himself that the new facts and arguments which occur in this edition, will contribute to extend the beneficial consequences which must result from such salutary regulations.

Some

Some very absurd opinions entertained by invalids who resort to watering-places; and a desire to vindicate the physicians who attend there, from illiberal imputations, induced the author to republish the Third Essay.

That the Essay on Empiricism has been of some use, appears from the alarm it has given to the Quacks, who, by anonymous* and avowed attacks,† have manifested their apprehensions

* A friend of the author's, having read the first edition of this work, told him he certainly would be *stung* by some of these empirical *wasps*; but the manifold attacks made upon him by the anonymous letters, newspaper squibs, pamphlets, and base but bungling incendiary artifices, of those *dull illiterate knaves*, have only evinced them to be mere *drones*.

† A person who assumes the title of M. D. has published *frictures* on the first edition of this work. The author is very much disposed to pay such a degree of respect to every candid and liberal criticism, as either to adopt the correction, or assign his reasons for adhering to his own opinions; but his friends have insisted that his antagonist is totally unworthy of notice or reply; Alledging, “ that his criticism favours much more of the *Blacksmith's shop* than of the *lamp*, that it is impossible any University could, *after due examinations*, as this man asserts, have granted him a medical degree; and that his attack upon the author, whether critical or personal, manifests so much gross ignorance and flagrant falsehood, that in the opinion of every man of common sense, he must be deemed to be absolutely *sele de se*.”

The present professors of medicine in the University of Aberdeen have declared, that no such person as *Stephen Freeman* has been graduated by them; and therefore there is just ground to believe

apprehensions that the author's strictures might, eventually, make a due impression on the public; and expose the ignorance, fraud, and imposture, of those pests of society.

It is the duty of every physician to discountenance empirical practice; not from the sordid consideration of its interfering with his professional emolument; but from an entire conviction of the injury the public may sustain, by confiding in, and employing, men who are totally ignorant of medical knowledge.

The author thinks himself peculiarly qualified for the task; having, for many years, taken much pains in detecting the ignorance and knavery of some of the most celebrated quacks;* and having also bestowed consider-

believe that this illiterate quack has arrogated to himself a title to which he has no claim.

The authors of the Critical Review seem to give credit to this man's assertion, that his family was *not* subsisted by a parish at Antigua: unimportant as the fact may be to the public, the author of the Medical Cautions, jealous of his reputation as a man of candour and truth, is permitted by a gentleman of rank of that country, now in England, to assert the fact; and he having been a member of the vestry of that parish by which these people were long supported, will, if it be necessary, personally authenticate the truth of the allegation.

* A friend of the author's proposes, that the bishops, who are, by an old law, authorised to *examine* and licence medical practitioners,

able attention, and incurred some expence, in analysing their nostrums.

The author has been led, by the nature of his plan, to make some farther animadversions on a quack medicine taken notice of in the first volume; this has produced an attack from the proprietor of the patent, in which, it is alledged, he has been assisted by some medical men, who have neither done any credit to themselves, nor their profession, by espousing such a cause.

He is exceedingly sorry he has been obliged to engage the reader's attention, even for a moment, to any circumstance which could be deemed personal: conscious that no credit

titioners, should interpose, and extirpate these *medical heretics* the quacks; who, though they bid defiance to the statute law, would not be able to evade the all-powerful grasp of the ecclesiastical jurisdiction: but should their lordships decline a duty so worthy of them, he thinks the quacks might be transported to Botany Bay; as cheats and impostors would be very fit companions for rogues and felons; and to compensate for the loss of the medicine tax, he proposes that each Lady Doctor, of which he computes there may be, at least, 100,000 in the British dominions, shall take out licences annually at a guinea each; by which they will be qualified to prescribe *kitchen physic only*; under a penalty, if they attempt to prescribe medicine; and that by such a regulation the revenue would not only be augmented, but the *consumption* of his Majesty's liege subjects would be diminished to the amount of many thousands annually.

can

can be acquired by such contests, it was with extreme reluctance he took any notice of the groveling, yet malignant, attacks of his antagonists; but it was in some measure unavoidable. Persons of high rank, or exalted character, *may* decline the task; but those who have no claim to distinction *must*, negatively or positively, defend themselves; otherwise silence implies acquiescence under the imputation.

After the work was printed off, the author had an opportunity of examining a copy of *Tickell's* patent, stamped, and authenticated by the proper officer, upon which a few remarks may be made.

1st. From this specification it should seem that it undergoes four distillations, the description of which favours more of empirical trick than of chemical skill; for two of them are, on every just chemical principle, unnecessary; and the ablution of the acid by water, is less judicious and effectual than the addition of alkali.

2^{dly}. Distillation is totally unnecessary, if the æther is prepared in the most expeditious and æconomical manner; for the oils are soluble in æther, by simple mixture; and
there

there is no doubt but *T.* adds them in a much larger proportion without distillation, as in the specimen at the hospital.

3^{dly}. The reader must perceive, on perusing the first Appendix, with what precision the nature of this nostrum, and its disguising ingredients, have been ascertained; inasmuch that even an examination of the patent cannot throw any new light on the subject. The error taken notice of by the Critical Reviewers in the first volume, respecting the *oleum dulce*, was merely typographical.

4^{thly}. If allowance be made for the waste of the oil of juniper, or of the camphor, which is added in the third distillation; its proportion to the æther will not really be more than 1 in 100; though it apparently constitutes 1 in 64; and the same observation is applicable to what *T.* in the true empirical cant, terms *oleum polychrestum verum*, or the sweet oil; and therefore neither of the additions can be of any importance in a medicine the dose of which is a few drops only.

5^{thly}. This nostrum therefore, as is alledged in the Appendix, is in no essential point different from that which Mr. *T.* communicated

to

to *Sir J. Banks*, with a liberality of spirit which did him honour: *O si sic omnia!*

The respectable authorities of professors *Cullen* and *Black* will induce every candid reader to believe that neither Mr. *T*'s liquor mineralis Hoffmani, nor his quack æther, can, in any respect, have superior powers to the æther of the shops; but that in truth they are inferior to it.

When the author read *Tickell's* Xth case, his own experience in such cases convinced him that he had been guilty of gross misrepresentation. The boy has been examined by a very respectable and judicious medical man of this place, who found him in a state nearly bordering on idiotism, and was informed by the mother that he had from six to twelve fits daily; and could not be left a moment by himself: how different is this from *Tickell's* report!

That gentleman also examined *Mary Moore*, the subject of case XI, and was informed that she had had but one fit in ten days; and that the medicine had certainly been of use. Candour requires that justice should be done to Mr. *T*. in every instance. It may be observed, however, that this was a recent case, and
seems

seems to be of that species which is termed hysterico-epileptic, in which common æther is sometimes of use as a palliative, and T's æther has hitherto been no more; but in genuine and inveterate epilepsy, such as the boy's, Mr. T's nostrum certainly will not succeed; and he who can discover what will —*erit magnus Apollo*.

On a very careful and candid enquiry into the success of Mr. T's remedy, it is probable that the number of cases in which it has failed is nearly, if not fully, double of those he has given to the public; and several of these unsuccessful cases are similar to those in which he deems his nostrum to be *specific* and *infallible*.

It has been remarked,* that the legislature of this kingdom, convinced of the destructive consequences of empirical practice, enacted laws for the prevention of it; and that, at certain periods, quacks have been punished with severity, and peculiar marks of ignominy; but they have, of late years, become unusually bold and insolent, partly from the sordid and shameful practice of granting them patents; and partly in consequence of the medicine act; inasmuch, that

* Essay on Empiricism.

one of them, in a pamphlet he lately published,† asserts, that he and his brethren practise under royal and parliamentary authority.‡

But this cannot be the case, because prerogative in this country cannot supersede the laws of the land, and the old law is not repealed; therefore, by exempting medicines employed in regular practice from taxation, the legislature has manifestly marked the quacks as illegal intruders: and as Parliament might not chuse to interfere directly with that branch of prerogative, by which patents are granted, sometimes for very good

† *Strictures on Adair's Medical Cautions*, by S. Freeman, M. D.

‡ It has been alledged, by quacks and their abettors, that they cure persons who have been given up by the regulars. The allegation is not totally destitute of truth; and indeed the success of empiricism may, in some degree, be attributed to the indolence, timidity, or injudicious despondency, of regular practitioners, who, being disappointed of their expectations from the common routine of practice, are either too indolent, or too timid, to avail themselves of such expedients as shall be adequate to the singularity or urgency of the case; and by precipitantly declaring patients to be incurable, before they have made every possible effort, force them to have recourse to empirics, whose temerity being equal to their ignorance of consequences, they *sometimes* succeed by a bold use of remedies which, *being pilfered from regular practice*, might certainly be more safely and successfully employed by men of skill.

purposes; they deemed it more eligible to convert the *misapplication* of that power in favour of quacks, into a beneficial increase of the revenue. But “none (as the late “*Chesterfield* observed on the gin act) ever “heard of a tax on theft or burglary, because a tax implied a licence;” for the same reason, quackery, being a dangerous evil, should not have been taxed, but absolutely prohibited under the most severe penalties; for vice ought not to be tolerated in a good government, but rigorously suppressed.

But if the College of Physicians had, in consequence of the authority vested in them, punished these interlopers, quack medicines could not now have been an object of taxation. The practice of medicine in this kingdom is on a most miserable footing; and nothing but a thorough reformation of it can remedy the manifold evils which result from its present state; nor can there be an object of greater political magnitude, or more worthy of the interposition of the legislature, than the establishment of such regulations as, by confining each department of medicine to its proper province, may effectually eradicate empiricism.

That

That this is practicable is manifest from the effects of the wise regulations established by that great princess the *Empress of Russia*; by which quackery has been totally annihilated in that most extensive empire; and it may justly be affirmed, that there are more quacks in *England* than in all the rest of Europe.

Divinity, law, and physic, are justly deemed *learned* professions, and legislative authority has limited the *regular* exercise of those professions to such persons *only* as are qualified by a regular education. But though the benign spirit of toleration has *permitted* religious empiricism, and *folly has countenanced medical quackery*, the courts of Westminster have wisely excluded *ignorance* from the bar.

But though no man of common sense would rely on an *enthusiastic cobbler* for instruction concerning his moral and religious duties; or employ a *taylor* to defend his property in Westminster-hall; yet, *strange infatuation!* many persons, not destitute of common sense in other respects, daily trust their lives and healths to *miscreant nostrum-mongers*, who are as little qualified to practise

b 2

physic,

physic, as a cobbler is to preach, or a taylor to plead a cause.*

It may

* The reader will see this subject fully explained, vol. I. Essay II.

It has been intimated to the author, in a tone bordering on the supercilious, that he was guilty of misrepresentation, when [see P. 116, of this vol.] he alledged, that mandamus and honorary diplomas in physic were granted by the English, and *some* Scottish Universities, to persons who had never seen them; for that at Oxford the candidates were always present. But admitting that a gentleman posted down to Oxford to enjoy the conviviality of an encœnia; and having obtained his Doctor's degree, posted back again; he might as well have been at the Cape of Good Hope, unless we suppose that the Regius Professor could, *by the influence of animal magnetism*, convey to the candidate a *quantum sufficit* of his medical skill. Did not the University reward the imposture of *Price*, the alchemical gold-finder, by *sending him a Doctor's degree*? *Pudet hæc opprobria.*

There are, it is true, some medical professorships at both Universities, and they are very pretty sinecures; but it is within a very few years only that any attempt has been made to erect medical schools there. By whom? why truly, *by gentlemen who received their medical education at Edinburgh!* and yet so ridiculously supercilious and fastidious have some physicians bred at Oxford been, as to have peremptorily refused signing a prescription with graduates of Leyden and Edinburgh: but those gentlemen have since abated of their high pretensions.

One of the most violent assertors of this academical superiority was the late Sir *William Browne*, a corpulent man; and though then president of the college, almost as good a physician as he was a poet. Disputing, one day, with a waggish licentiate on this subject; "Sir," said the Baronet, "I am a member of both Universities." "I doubt it not;" replied his antagonist: "and I once knew two cows, which bringing calves at the same time, one
of

It may be proper to offer some remarks on the most important subject of this volume, the Essay on Regimen, now very much enlarged.

It is drawn up in the form of propositions, which though not so demonstratively certain as those of *Euclid*; yet, probably, as much so, as truths, not geometrical, will admit of.

of the calves dying, the survivor sucked both cows.' "How" rejoined the enraged president, "does your story relate to my pretensions?" 'In no other respect,' replied the wag, 'than that, by having the benefit of both cows, *he must have been a very great calf indeed.*'

The author has not the most distant intention of detracting from the merit of those physicians who have been members of either university; many of them have been, and now are, deservedly eminent; and the author has formerly had the pleasure of professional intercourse with *one* gentleman in this line, whose merit, as a man and a physician, is above all praise.

But these gentlemen neither derived their *medical* education, nor their celebrity, from *their* universities; but from other *feminaries*, or their own talents and assiduity.

It has been said that, not only in the former edition of this work, but in the work lately published, the author has, in several instances, indulged a spirit of sarcasm, and in others of asperity, which may have a tendency rather to offend than reform.

It certainly was far from his intention to make "one worthy man his foe;" but, independant in his spirit, and *totally regardless of consequences*, he has dared to utter some strong but unpalatable truths, which a more dependant man might, from prudential motives, have chosen to decline. May such, however, *in this country*, ever be the result of personal, professional, and political independance, *unalloyed* by the influence of interest, prepossession, or prejudice!

The Essay on Regimen is divided into two books; the first treats of diet as adapted to the preservation of health, or the cure of diseases; the second book contains remarks on the other non-naturals: a second table of the relative qualities of foods and drinks is now added; and the whole very much enlarged. A careful perusal of the first volume will render this more intelligible, as frequent references are made to that for the purpose of illustration.

There is nothing novel in the attempt to explain regimen upon medical principles; indeed no other mode can be adopted by which the subject can be rendered intelligible.

Those who have written treatises on this subject for popular information, as *Arbutnot*, *M'Kenzie*, *Strother*, &c. were obliged to adopt the same plan; but their references to, and reasonings upon, the sound or diseased state of the body and mind, were but imperfectly understood by any but medical men; because readers in general (a few philosophical men excepted) were totally unqualified to comprehend those principles upon which the reasonings were founded.

The

The author has removed this stumbling-block, by the publication of *The Natural History of the Human Body and Mind*, in which, by divesting medical principles of their technical obscurity, he flatters himself he has rendered the whole intelligible to every person who has any pretensions to a liberal (though neither a classical nor philosophical) education.

Those who will probably peruse this and the preceding volume, may be divided into different classes.

1st. The *learned and philosophical readers* can find no difficulty in comprehending the principles which are constantly referred to; and it must afford them peculiar satisfaction to find the field of philosophical enquiry extended, by the accession of a most curious and interesting branch of philosophy, which has hitherto been solely appropriated by medical men.

From a more general diffusion of medical knowledge, the happiest effects must result to society; because men of learning and science, now no longer excluded from a participation of this branch of philosophy, will have no separate interest from that of the
art

art and its professors; and whilst they assert their right of enquiry into the principles of a science on which the preservation of life and health depends; they will deem it their duty to detect and expose assuming ignorance, and be the judges and patrons of real merit; and, by their example and authority, must give a deadly blow to every species of empirical pretension.

2dly. *Lady and Gentlemen-Doctors* are exceedingly numerous in this age and kingdom. Though they read dispensatories and practical compilations with great avidity, they are so far from acquiring thereby any real knowledge; that the few ideas such reading affords them are destructive, because they are empirical; and should these eleemosynary doctors, fraught with this kind of knowledge, undertake the office of being medical prescribers, their best intentions must be productive of much evil. Of this serious truth a perusal of this and the preceding volume will afford the most irresistible conviction.

On the other hand, the principles of regimen are so much more simple and intelligible than those of medicine, that if a lady-doctor will confine herself to this province, she may
be

be essentially useful, especially as ordinary practitioners often, and physicians sometimes, are more attentive to the use of medicine than of regimen.

Some observations are more peculiarly medical, which if not relished by the reader, may be passed over: to the lady-doctors, however, long and profoundly conversant, as they must have been, in medical study, one objection only can occur to those observations, that they do not afford a single hint by which they may increase their store of infallible receipts.

3dly. Though regimen is an object of general concern, it is peculiarly so to those whose constitutions, being naturally delicate, may be said to be perpetually on the verge of disease; such are the nervous, the hypochondriacal, and the gouty invalids.

The perusal of these volumes will strongly impress on their minds two very important truths:—That by a due attention to regimen, they may avert or alleviate many of their distresses;—and that in every circumstance respecting the use of medicine, they ought implicitly to submit to the direction of men of skill and integrity. Gouty persons,

sons, especially, will find some useful hints in the last chapters of the first book of regimen, which, if duly attended to, may very much contribute to mitigate, and, under certain circumstances, even eradicate their disease.

4thly. The author flatters himself, that young medical men, of every denomination, may not totally misemploy their time in the perusal of these volumes; and that they may especially derive some useful hints from the second Essay of the first volume, and the first and second Appendix of this.

The authors of the Monthly Review, in their criticism on the Philosophical Sketch, remark, that “except that useful body of
“men the apothecaries, on whom the author
“has passed some strictures, every class of
“readers will receive entertainment as well
“as information &c.”

This remark seems to imply that there must be something offensive in these strictures; but though the author of the Philosophical Sketch has ever disdained the use of those arts by which physicians are sometimes supposed to conciliate the favour of apothecaries; he equally abhors an indiscriminate censure of any body of men.

His

His plan necessarily led him to offer some remarks on the defects of medical education; but he has expressly said, that as a diploma cannot convert a blockhead into a skilful physician; so an ingenious apothecary may, by assiduity, become a good physician, though destitute of the credentials.

The late Dr. *Fothergill* had been apprentice to an apothecary; and though that portion of medical genius which he so eminently possessed, and which was depreciated only by those who envied him, would have surmounted all difficulties, even had he remained behind a counter; yet no man will venture to assert, that the ordinary education of an apothecary is the best possible for the attainment of medical knowledge: *if it be not*, the physician has a just claim to that pre-eminence which he holds in the estimation of the public: *if it be*, the distinction between the physician and apothecary is invidious and unjust.

To conclude: Should the readers of these volumes deign to bestow but a very trivial portion of that labour and attention with which they were compiled; it is probable they may acknowledge that they have not totally misemployed their time.

A table of Contents, and a copious Index, will readily conduct the reader to any article of which he or she may wish to be informed; but such is the connexion between every part of the subject of regimen, that an attentive perusal of the whole will be the best preparative to a knowledge of particular parts.

The errata of the first volume having been omitted, are inserted in this.

THE author is informed that his empirical opponents, and their abettors, have, as *a coup de grace*, industriously propagated a report *that he is insane*; and it is possible that even his friends may suspect that all is not right with the man who could attempt the Herculean labour of cleaning the Augean stable of empiricism, or undertake the no less arduous task of reforming many other medical abuses.

As he suspects that the *Vir sapiens, sibi que imperiosus*, is almost as rare a phænomenon as a black swan, he will not attempt to vindicate himself from the allegation of the former,

former, nor obviate the suspicion of the latter: for if propriety or consistency of conduct were to be admitted as the only criteria of sanity of intellects, almost every page of history and biography, ancient and modern, will evince how difficult it would be for nations or individuals, the governing or the governed, to establish an indisputable claim to *even* a very moderate portion of intellectual acumen or consistency: he may therefore say, with Horace,

Pudor te malus urget,
 Insanos qui inter vereare insanus haberi.

ERRATA in VOL. I.

N. B. When the Sketch of the Natural History was published, the list of Errata was accidentally omitted, and it is therefore inserted here.

Preface, p. xiv. 7th line from bottom, for *my*, read *bis*.

Page 22, l. 19, f. *on* r. *of*.

30, l. 3, f. *of will* r. *of the will*.

36, l. 4, f. *in* r. *in a*.

122, note, f. *part I.* r. *Medical Cautions, Essay II.*

160, l. 20, f. *Essay III.* r. *Medical Cautions, Essay V.*

184, l. 10, f. *womitting* r. *vomiting*.

219, l. 15, f. *irregularites* r. *irregularities*.

241, l. 7, f. *compleat* r. *competent*.

251. By some accident this sentence has been constructed in a very different manner from the author's real meaning, and is to be read as follows :—

“ *Hoffman's* Anodyne Mineral Liquor was composed of æther and rectified spirit of wine, combined with the aromatic, or, as the Parisian Dispensatory terms it, the *sweet* oil of vitriol, obtained by means of a protracted distillation, and he frequently substituted the dulcified spirits of vitriol and nitre in its place, in his prescriptions.

“ The only circumstance that we do not know concerning this remedy, is the proportion of the aromatic oil; the Parisian Dispensatory directing only a part to be added, the Wirtemberg College being of opinion that the whole was added by Dr. *Hoffman*; but even if it were not, his anodyne liquor must have been *stronger* than the common dulcified spirit.

264, 3d paragraph, f. *pleurisy*, r. *inflammation of the liver*, and f. *liver* r. *lungs*.

ERRATA in MEDICAL CAUTIONS, or VOL. II.

Page 118, note, f. *commendam* r. *mandamus*.

140, 147, note, f. *Essay I.* r. *Vol. I.*

149, l. 21, f. *of full* r. *full of*.

157, 158, 159, 163, 172, 175, f. *Essay I.* r. *Vol. I. Essay I.*

151, f. *Essay I.* r. *Vol. I.*

214, 239, f. *Essay I.* r. *Vol. I.*

267, f. *Chap. VIII.* r. *IX.*—The error runs thro' the others.

301, l. 2, r. *facility*.

344, l. 7, f. *ancurism* r. *aneurism*.

348, l. 1, *ibid*.

371, l. 17, f. *circumstance* r. *circumstance*.

414, l. 23, f. *who* r. *which*.

431, note, f. *viniso* r. *vinoso*.

432, l. 2, f. *neutralize* r. *change*.

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MEDICAL CAUTIONS.

ESSAY I.

On FASHIONABLE DISEASES.

And here they are all Bile and Spleen,
The strangest Fish that e'er were seen.

Five times I've purg'd, but I'm sorry to tell y'
I find the same gnawing and wind in my belly.

NEW BATH GUIDE.

FASHION, like its companion *Luxury*, may be considered as one of those excrescences which are attached to national improvement; and which so far resemble the moss of fruit-trees, and the milletoe of the oak, as not to be entirely useless; though they may be occasionally injurious.

B

Whilst

Whilst one part of a polished nation is assiduously engaged in cultivating the arts and sciences; another part is not less busily employed in the invention and regulation of its fashions.

As societies advance in civilization, the active mind of man, not contented with the means of satisfying our natural wants, is anxiously employed in creating artificial wants, and inventing the means of their gratification.

When that scourge of mankind, *Louis* the XIVth, was induced by vanity and ambition to attempt universal empire, his subjects were, *pour l'honneur du grand Monarque*, not less solicitous to extend the language and fashions of that frivolous nation; and even sturdy *John Bull*, whilst his armies and navies triumphed over those of France, deigned to submit to the influence of her fashions.

By one of those revolutions, however, which are not unfrequent in the affairs of men; whilst France has of late presumed to dictate to our Ministers, she has condescended to adopt our fashions: manifest proofs of which frequently occurred to me in that country, and even in the apartments of the
first

first lady of that kingdom: How have we benefited by the exchange?

The empire of fashion has now become universal: it is not confined to the decoration of our persons, or the embellishment of our houses and equipages; but extends to our politics, morals, religion, and even in some degree to our sciences. Men and women of fashion are supereminently distinguished from those of *no fashion*, or *whom no-body knows*.

I do not, however, *entirely* approve of those apparent discriminations of national character, merely because they do not seem to answer the purpose for which they were established; for whilst people of no rank and slender means presume to intrude on the province of their superiors, by *fashionably* ruining themselves, their families, and connections; the pale of distinction is likewise thrown down by toad-eaters, swindlers, and gamblers, who, by keeping *the best company*, necessarily exalt themselves to the high prerogative of being *people of fashion*.

Should any of my fashionable readers express their surprise at meeting with a dissertation on fashion in a medical essay, my

reply is ready; that as medicine, as well as some other arts, is become subject to the empire of fashion, there can be no impropriety in considering by what means this has been effected.

Fashion has long influenced the great and opulent in the choice of their physicians, surgeons, apothecaries, and midwives; but it is not so obvious how it has influenced them also in the *choice* of their diseases. This I shall endeavour to explain.

Patients are generally prompted by curiosity to enquire of their medical guide, what is their disease? But an explicit answer to the question is not always either convenient or practicable; because the doctor is sometimes ignorant of it himself: instead therefore of entering on a learned disquisition on the subject, or candidly confessing his ignorance, which would not be always consistent with good policy; he gratifies his patient by a general term, which may, or may not, be expressive of the nature of the disease.

If both patient and doctor are people of fashion, this circumstance is *alone* sufficient to render the term fashionable; for as people of fashion claim an exclusive privilege of
having

having always something to complain of, so the mutual communication of their ailments is often a topic of conversation: the imagination frequently suggests a similarity of disease, though none such really exists; and thus the term becomes soon completely fashionable.

In the latter end of the last and beginning of this century, *spleen*, vapours, or hyp, was the fashionable disease.

The *Princess*, afterwards *Queen ANNE*, often chagrined and insulted in her former station, and perplexed and harrassed in the latter, was frequently subject to depression of spirits; for which, after the courtly physicians had given it a name, they proceeded to prescribe Rawleigh's confection and pearl cordial. This circumstance was sufficient to transfer both the disease and the remedy to all who had the least pretensions to rank with persons of fashion. In process of time, however, these fashionable and palatable shop drams became by repetition too weak; and many of the patients, tired of the expence and inefficacy of the remedy, found a more ready and more powerful substitute in closet cordials and plain Nantz.

Upwards of thirty years ago, a treatise on nervous diseases was published by my quondam learned and ingenious preceptor Dr. WHYTTE, professor of physick, at Edinburgh. Before the publication of this book, people of fashion had not the least idea that they had nerves; but a fashionable apothecary of my acquaintance, having cast his eye over the book, and having been often puzzled by the enquiries of his patients concerning the nature and causes of their complaints, derived from thence a hint, by which he readily cut the gordian knot—"Madam, you are nervous!" The solution was quite satisfactory, the term became fashionable, and spleen, vapours, and hyp, were forgotten.

Some years after this, Dr. COE wrote a treatise on biliary concretions, which turned the tide of fashion: nerves and nervous diseases were kicked out of doors, and *bilious* became the fashionable term. How long it will stand its ground, cannot be determined.

Names or terms, when improperly employed in matters of science, necessarily create confusion and error; but had this fashionable term been productive of no untoward *practical* consequences, I should have considered

considered any attempt to combat the idea as unnecessary and absurd. But I have observed so many injurious effects from the adoption of this idea, that I think it my duty to be at some pains to point out the danger of it.

In my essay on the difficulties of studying medicine, I have hinted at the impropriety of attempting to regulate the evacuations, during health, by the use of remedies. I remarked that it will be more safe to leave the constitution to its own efforts. In no respect is health more abused than by the absurd practice of taking purgatives for the preservation of health, or to remove the occasional effects of accidental repletion, or slight constipation of the bowels.

The idea of bleeding and purging every spring and fall, to prevent fevers and other diseases, was formerly very general in this country; owing to the ignorance or knavery of barbers and medicasters, who derived no small benefit from thus disciplining whole parishes. Many of the lower ranks do still submit, with implicit faith, to this destructive practice, but it is not so general as it was. Another custom now prevails, more
injurious,

injurious, because more universal and frequent, which is the repeated use of salts, magnesia, rhubarb, Anderson's and James's pills, especially by persons who either labour under some slight indisposition, or believe they do. Such practice tends to destroy the health they wish to preserve, and to exasperate the disease they are taken to remove.

Having made this general observation, I return to my subject.

From a well-grounded opinion that Bath waters are very beneficial in colics produced by gall-stones, and other cases of *defective* bile, a very considerable proportion of the patients who resort to this place, come with a strong prepossession that their complaints are *bilious*; inasmuch that instead of my patients giving me a detail of their symptoms, by which I may judge of the nature of the disease; the answer generally is, "*Doctor, I am bilious*;" and on enquiry, I find that they have generally been in the habit of taking medicines to carry off the *supposed* offensive bile.

To point out the dangerous consequences of indulging, and acting under, this idea, I shall,

shall, as briefly as possible, relate two cases, out of many others which have occurred to me.

Some years ago a lady, daughter of an eminent physician, and wife to a gentleman more respectable from his personal character, than *even* by his near relation to a noble family, consulted me on her case.

A late *fashionable* physician, who had declined practice, spent some time at this gentleman's country-seat. As he had been the family physician, the lady consulted him, as a friend, concerning a complaint of her stomach, and he prescribed her a course of purging salts, under the idea that the case was bilious.

Some weeks after, I was consulted, and found that she had almost daily used these salts; but instead of being relieved, was much reduced, with a total loss of appetite, and extreme oppression after meals; from which very distressful symptom, she was in some measure relieved, either by discharging her stomach, or a repetition of her purge.

I, in vain, attempted to dissuade my patient from this destructive practice, and therefore advised that some other physician
might

might be consulted. Some difficulty having arisen concerning the choice, copies of her case were sent to three physicians in London. The physician who had been strongly recommended by the friend of the family as his successor, desired the patient might go to town, and put herself under his care; but this being, on account of her weakness, deemed impracticable, he was prevailed on to visit her. As we did not agree in our opinion of the case, I resigned the patient totally to his direction: Purging medicines, and large quantities of the acid of lemons were ordered; and her physician left her with a declaration that he expected to find her out of danger in the course of two days, when he should visit her again: but on the morning of that day she died, after having laboured for twenty-four hours under violent convulsions.

Here a trivial complaint, which might have been relieved by a few stomach medicines, and a course of Bath waters, became fatal from injudicious management in the beginning; for I was well assured that the disease was incurable before the lady was visited by the last physician; who erred only
in

in his favourable prognostic respecting the issue of a case which was beyond the power of medicine: though it is probable the lady's death was precipitated by the adoption of his patron's plan.

A single lady, daughter of a most worthy and respectable friend of mine, had been for many months in the habit of taking purges, with an expectation of carrying off bile; in-somuch that her stomach and bowels, having become, by repetition, insensible to the impression of weaker purges, was at length obliged to have recourse to gamboge pills, by the direction of a very eminent physician in London. Her health, considerably impaired by this practice, was farther injured by the death of an only sister, and she came to Bath near three years ago to consult me.

This lady had been so accustomed to frequent purging, that she experienced the most distressful oppression and sense of fullness at the pit of the stomach, when she omitted the use of her pills for a day or two: But I having pointed out the danger of pursuing this plan, she desisted, and from the use of a few warm medicines, assisted by the Bath water, gradually increased to five of the

the largest glasses daily of the King's Bath pump, this lady left Bath much amended; and by a letter received from her lately, I understand that she has not taken any purgative since, excepting a little tincture of rhubarb, once only, when indisposed by colic.

Had this lady continued the use of these violent purgatives, or indeed of any, she would probably have died under complaints similar to those mentioned in the preceding case; or have been destroyed by an inflammation of the bowels, in consequence of their insuperable insensibility to the impression of necessary means.

The Bath water and other remedies rendered the farther use of purges unnecessary, by strengthening the stomach and bowels, and enabling them to perform their offices regularly and steadily.

The cases now related afford an irrefragable proof of the dangerous consequences of indulging in the habitual use of drugs, especially those of the purgative kind; and this often upon the most trivial occasions: and I am entirely convinced that Anderson's pills, and James's Analeptic pills, (now the fashionable remedy,) have been more destructive

structive to his Majesty's subjects than even the havock of war.

From what I have said, it is manifest that I cannot concur in opinion with Dr. CADOGAN, that the daily use of even gently opening medicines, or frequent purgatives, is at all adviseable in the intervals of gout; and I have had several occasions to remark very injurious consequences from the adoption of this habit by gouty patients.

Before I proceed to assign my reasons for believing that the idea of bilious diseases being frequent, is founded in error, it will be proper to consider the true meaning of the term *bilious*.

Bile is a fluid of a brownish yellow colour, of a pungent bitter taste, and of a soapy nature, separated by the liver; and discharged into the bowels a few inches below the inferior orifice of the stomach; partly from the liver, and partly from the gall-bladder, which is a kind of repository for the bile, where it undergoes some necessary changes.

The offices of bile are various:

1st. As it is highly *alcalescent*, it corrects any acid tendency the food may have acquired in the stomach, either from too great
a proportion

a proportion of vegetable aliment, which is more or less of an acid nature, or from some defect of the digestive powers of the stomach.

2dly. As the humours of the body have an alcalescent tendency, the bile, by giving that quality to the vegetable food, confers on it so much of the animal nature, as to render it fit for performing the office of nutrition.

3dly. As many of the articles of our food are of a tough, glutinous, viscid nature, and the digestive humours of the stomach cannot always compleatly assimilate them, the bile contributes by its soapy quality very much to compleat the necessary change.

4thly. By its pungency and sharpness, it stimulates the secretory vessels of the bowels, to discharge a larger proportion of the digestive humours for the purpose of diluting and assimilating the vegetable food: it also by the same power excites the absorbent vessels or lacteals to absorb the fluid nourishment or *chyle*, and carry it into the circulation.

5thly. It excites the bowels to that necessary degree of motion, by which its discharges are regularly performed.

Bile may be said to be either too abundant, too sharp and alcalescent, or the reverse; that

that is, too scanty, or not sufficiently pungent; and one or other of those conditions must take place in any disease, which is commonly called *bilious*; though I think very improperly, in every case where it is deficient. In hot climates, and even during the sultry weather of our summers, the bile may be too sharp and alcalescent, and therefore offensive to the stomach and bowels: But persons most subject to those complaints, are chiefly the strong, athletic, and laborious; who are much exposed to the heat of the sun, such as soldiers, seamen, and day-labourers, whose constitutions being firm and athletic, their vital and circulating powers strong and vigorous, their humours, especially the bile, have a strong alcalescent tendency: but even in those persons, I know from experience, that the bile discharged is more frequently an effect than a cause of disease; for though the natural pungency of the bile may be exasperated by excess of heat in fevers, especially in persons of this habit of body; yet as soon as the fever ceases, the bile, so far from being either too abundant or too acrid, is generally deficient in both respects, and continues to be so until the patient recovers his health

health and strength. That fallowness and duskiness of complexion, therefore, which we remark in the countenances of persons recovering from intermittent fevers and agues, and also in chronic diseases, and which is often termed *bilious*; is owing to a cause with which bile is very little, if at all connected, any otherwise than in consequence of its deficiency, which, in the language of common sense, cannot be called *bilious*.

Persons of relaxed, delicate, and irritable habits (and such generally are the persons of rank and fortune who seem to have monopolised the term) are so far from being affected by excess of the bile, that the very reverse is the case; because from the weakness of their vital powers, the languor of their circulation, and consequently the poor and watery state of their blood, the secreted humours, the *bile* especially, are much less *alcalescent* and *pungent* than they ought to be.

The bile is often more deficient in quantity and pungency than the reverse; and this is frequently the result of that indolence of life and relaxation of habit, most frequently to be met with in the wealthy; and is often accompanied by a train of nervous symptoms;

toms; though there is no doubt but persons in the inferior ranks of life, who are reduced by indigence, improper diet, or disease, may also labour under this defect of the bile. But without insisting on the impropriety of applying the term *bilious* under these circumstances, it will be sufficient to observe, that in such cases all the remedies directed, are such as are intended to increase the quantity and sharpness of this humour: Hence the late celebrated Dr. BOERHAAVE prescribed ox's gall and other bitters in such cases, as substitutes to the bile; when they produce a double effect, not only by neutralizing the sharp acid generated in weak stomachs, which bitters always do; but also by rendering the digestive humours more alkaliescent and pungent.

Jaundice, or a bilious tinge of the skin, is considered as a sufficient proof of an excess of bile; and many patients, especially the ladies, are very much in the habit of consulting their friends and their doctors, concerning the colour of their eyes; and by the aid of a depraved imagination, often detect bile as a cause where it does not exist. Thus, when a lady, having spent many

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hours

hours at a rout, almost suffocated by the hot and tainted air of a small crowded room, is thrown into a temporary fever, and awakes unrefreshed and distressed; perhaps not in a very good humour, from a bad run at cards the preceding night; upon consulting her glass, finds her complexion not so clear as the preceding day; but unwilling to attribute it to the real cause, finds in the bile a more convenient subject of blame.

Jaundice, however, is rarely the consequence of excess of bile, but of its deficiency, and only shews that it has, by a variety of causes, been diverted from its natural course. But here the means of relief are such as may be beneficial in restoring it to its usual channel, and increasing its quantity and pungency; and not such as may discharge it as abundant or offensive: therefore, this does not deserve, strictly speaking, the name of a bilious disease, any more than a dropfy necessarily implies an excess of the thinner parts of the blood.

A bilious tinge of the skin is not unfrequently the accidental effect of violent anger, the bite of the viper, poisons, agues, and of nervous or spasmodic colics, owing to the
natural

natural passages of the bile being so blocked up by a temporary constriction, that it is diffused over the surface. This I have more than once observed in patients exquisitely nervous, and in whom there was not the least reason to suspect either abundance of bile, or gall-stones. In these cases, the skin and whites of the eyes have lost the yellow tinge, when, the spasm being removed, the bile returned into its natural course. A dose of camphor or opium effected a cure; whilst a purge, given in this state of the organs, would have increased the yellowness.

But there are many diseases accompanied with a fallowness of complexion, often mistaken for a jaundiced tinge; and this is sometimes the case in persons who labour under a complication of nervous and hypochondriacal symptoms, not unfrequently connected with ill-formed gout: such persons, under the idea of being bilious, are often too busy with purgatives, for the absurd purpose of carrying off a cause which does not exist; and thereby exasperate all their complaints.

Gall-stones, as they are commonly called, are formed by the bile contained in the gall-

bladder becoming gradually so congealed as to acquire the consistence of yellow wax. This is not so frequent a disease as is generally imagined; but it is easily distinguished from what are commonly, but falsely, called *bilious* cases, from the exquisite and intolerable pains at the pit of the stomach; whilst the gall-stones block up the passage from the gall-bladder. But this terrible evil is not always accompanied with a bilious tinge of the skin, which is indeed often accidental, and unconnected with any fault of the bile.

Even diseases of the liver itself, the organ which prepares this humour, do not, strictly speaking, deserve the name of *bilious*; for yellowness of the skin, or a discharge of bile, are only accidental circumstances; and some of the most inveterate diseases of this organ take place without either.

A bitter taste of the mouth, a brownish list on the tongue, a sickness and sense of oppression at the pit of the stomach, are supposed to be undoubted proofs of offensive bile in the stomach; especially if bile be discharged by vomiting: but if we consider the unnatural medley of foods which are swallowed by the rich and luxurious, we may
readily

readily account for these symptoms, without attributing them to the bile; which, had it really existed in the stomach, would rather have prevented, by its assimilating quality, those unnatural ferments, than have promoted them; and indeed this is supposed to be its peculiar office, after the food is discharged into the bowels.

With respect to the supposed *unequivocal* proof of an offensive state of the bile, from its being discharged by vomit, this circumstance merits a distinct and more minute consideration.

Though some physicians have alledged that bile is always present in the stomach, and that it is indispensibly necessary to the digestion of the food; yet the majority have doubted, and even denied the fact; and some experiments made on brutes, with an express intention to ascertain the nature of digestion, seem to contradict it. If bile ever arrives at the stomach, it must be by a perverted and retrograde motion of the bowels, and contrary to gravity; which, in the simplicity of the operations of nature, cannot readily be admitted; for if the wise Author of our being had intended that the bile should

be deposited in the stomach, it might easily have been conveyed directly thither, as, it is said, was found to be the case on the dissection of a man who had been remarkable for a most voracious appetite, owing, as it was supposed, to the bile being conveyed thither directly by a duct.

Some of my patients have asked me how bile should be discharged from the stomach, if it were not deposited there. The answer is easy. The sensation of sickness, if it be severe and permanent, promotes a regurgitation of bile into the stomach, by inverting the peristaltic motion of that bowel or intestine which is connected with the stomach: and hence it sometimes happens, that when the stomach is empty, pure bile is discharged by the first effort; but this is no evidence of its being the offensive cause of the vomiting, but an accidental effect; neither is a copious discharge of bile any evidence of its being in a diseased state.

The most healthy person on going to sea, when he becomes sick, discharges, after various efforts, a great quantity of bile, and this for days successively: but shall we from thence infer that his bile is abundant or acrid?

acid? A man in high health receives a blow on his head, by which his brain is injured; he throws up green bile: are we to suppose that the bile therefore is in fault? Persons subject to nervous head-achs often discharge bile; but the effect is accidental, and is in no respect connected with a fault of this humour. Persons, the tone of whose stomachs is much impaired by intemperance, and other causes, after a severe fit of heart-burn, discharge the contents of the stomach so extremely sour, as even to corrode the throat. After a few efforts, the matter thrown up is green: this also is attributed to bile; though in truth, if this bile had been constantly present in the stomach, it would have neutralized and corrected this sharp acid; as we know that ox gall mixed with acids has this effect.

That bile rarely, if ever, passes into the stomach, unless after several efforts of vomiting, is evident, because as soon as it is pumped up, the sickness becomes much more severe and distressing; owing to its unnatural stimulus on the nerves of the stomach; which had it been a natural and constant guest there, would not have been the case.

To conclude, The idea of bile being a predominant cause of disease, is a gross and vulgar error; and in its consequences a very injurious one; and I can, from long and extensive experience, aver, that those evils which have been attributed to its excess, have generally resulted from its deficiency; and that the idea of carrying off this most useful and salutary humour, when it is already too scanty, has been often productive of the most dangerous and fatal consequences.

N. B. In the Greek language, the same term is used to express bile and anger; hence the word *choleric* is applied to persons of a violent, irascible, and resentful disposition. Were the British Fair, especially the *Fashionable*, (whose polished education has a manifest tendency to regulate, if not almost totally annihilate, all the tumultuous passions) apprized of this circumstance, they could not possibly conceive that any of their bodily or mental evils originated from, or were connected with, an excess of *gall* or *bile*; and instead of continuing to adopt it as a *fashionable disease*, they would resign it to the *nymphs* of St. Giles's and Billingsgate.

E S S A Y II.

*The DANGEROUS EFFECTS of HOT and
CROUDED ROOMS.**

C H A P. I.

FIRE is an element, the nature of which, notwithstanding the numerous experiments and painful researches of philosophers and chymists, is but imperfectly understood. It is the most universal principle, and the most powerful agent, in nature; as it pervades all bodies, and resides in a certain degree even in the coldest: heat and flame being only effects of its activity, and cold of its quiescent state in those bodies.

When united with the principle of inflammability, which resides in many bodies, those bodies, when fire acts upon them, burst out into flame; and this flame is supported by the external air: which is also supposed to enter copiously into the substance of those bodies during their state of combustion.

* See Natural History of the Human Body, book iii. chap. 1, on *Respiration*, which will explain the subject of this chapter.

Though

Though all bodies in nature are not susceptible of flame, yet all are of heat, in various degrees, generally in proportion to their density.

The effects of heat on animal bodies are in proportion to its degree, and perhaps of some other circumstances not yet well ascertained. In a moderate degree it creates an agreeable sensation in the parts with which it comes in contact, quickens the circulation of the blood, and increases the sensibility of the body. In a degree equal to, or above the heat of the body, it first excites and increases the powers of the circulation; but ultimately weakens and depresses them: Hence it is that bakers, blacksmiths, manufacturers of glass, &c. are oppressed, and eventually much weakened, by the heat of their furnaces, &c. and we know that excess of heat *alone* produces dangerous and often fatal fevers; and that, when the impressions of cold immediately succeed those of heat, a variety of diseases are produced, according to the degrees of each, and other circumstances.

This subject will be considered more fully in the next chapter.

C H A P. II.

EFFECTS *of* NOXIOUS AIR.

THIS term, when applied to air, implies, that it is injurious to animal life. The mass of air which surrounds this globe to a considerable height, and which is called the atmosphere, seems to be a compound of pure air blended with a very large proportion of exhalations from animals, vegetables, minerals, and metals; a considerable portion of which probably consists of fixible, inflammable, and other factitious airs, and electric fire; and therefore must be more or less impure in proportion to the nature and degree of these exhalations.

As we are constantly and necessarily receiving a column of this air into our lungs, for the support of life, it is of considerable importance that it should be as free from impurity as possible, (for impure it always is in some degree) because, when highly contaminated, it is fatal; as is evident from the effects of burning charcoal, experiments with the air-pump, &c.

The

The effects of impure air on the body are various, according to the degree of its impurity. The person who remains for some time in foul air becomes uneasy and languid, with head-ach, difficulty of breathing, sense of oppression about the heart, cold sweat, fainting, &c.

These effects shew that the lungs are unable to admit or discharge the air with their usual freedom; that the powers of the heart and circulation are weakened; the energy of the nervous system depressed and almost suspended; and that life will soon be totally extinguished.

It may now be proper to enquire what are the chief causes of these effects; that we may avoid, or in some measure counteract them.

1st. *Heat* in excess is the cause of much inconvenience and danger, as has been remarked in the preceding chapter, even when it is not combined with any other noxious qualities. In no city or quarter of the kingdom are these evils so frequently or severely felt as at Bath; surrounded as it is by hills, the incumbent atmosphere is rendered more warm and moist by the steams from the hot baths, and the smoke from the numerous fires.

fires. This atmosphere is more stagnant, or less frequently changed here than in cities situated on plains or elevated places, and when changed, it is but partially so; the colder and heavier air rushing into and through the streets, in eddies, especially from the west and northern points: hence it is a general complaint that Bath is more windy than any other place.

This city being much resorted to, most of the houses are occupied by strangers; so that constant fires in almost every apartment, render the houses exceedingly hot; as is evident from the heat of the party walls, which is sometimes almost intolerable in bed-chambers, especially if the beds are placed near those walls.

The public rooms, though lofty and spacious, are nevertheless rendered very hot by the numerous fires, and the great number of candles; but especially by the croud of people who resort to them: but the evil is much increased by the frequency of private routs, where small rooms are filled by a croud of persons.^a

Hence

^a It has been to me matter of great surprise, that in this city, where the public rooms are so commodious, people of fashion should

Hence it is that strangers almost generally complain of having caught cold on their coming to Bath; and invalids are not only thereby interrupted in the use of the waters, but their healths are much impaired; and coughs, rheumatisms, and fevers, are superadded to their other maladies.

These evils are not obviated by the use of chairs or other carriages. The common chairs, soaked by the rains and night-dews, to which they are perpetually exposed, instead of affording a proper defence against the outward air, contribute rather to increase

should countenance private meetings or routs, not only to the injury of the public institutions, but manifestly, of their own healths. Some wags have occasionally related such circumstances of the ludicrous and laughable distresses which have occurred at those meetings, as would have afforded our late *Aristophanes* ample materials for a farce: It is my duty to attend *solely* to the very *serious* consequences which result from such meetings.

In London, the practice of giving routs is more warrantable, not only because there are few, if any, public card-rooms; but the private apartments are much more *spacious* and airy than our dining-rooms and parlours here; not to mention the bed-chambers, closets, and *cupboards*, into which the company are crammed.

Of late another absurd practice has taken place, the invitation of large parties to private balls and suppers; where though much expence is incurred by the entertainer, and great inconvenience sustained by the neighbourhood, such meetings are generally a continued scene of tumult and confusion, and such invalids as are so imprudent as to frequent them, suffer exceedingly.

the

the evil; nor are gentlemen's carriages much less inconvenient; for besides their being exposed in open sheds, where not only the leather but the lining must unavoidably attract and retain damps; persons who pass from a hot room, through cold and long passages, into the open air, and from thence to their carriages, are subject to be *instantaneously* chilled by the sudden transition from suffocating heat to piercing cold.

2dly. *Tainted or impure Air.*

To the philosophical experiments and researches of the very ingenious Dr. PRIESTLEY, employed in discovering the nature and properties of factitious airs, we are much indebted for a more accurate knowledge of the qualities, and relative degrees of purity, of the atmospheric air.

This air, of which it is said not above one-third is really pure, is a very heterogeneous mass, the greatest proportion of which is really inimical to animal life.

Beside this general source of contamination, the breath and perspiration of the human body taint the air we breathe so much,
that

that it is generally supposed that each person destroys the vivifying principle of a gallon of air in a minute; and hence the necessity of frequently ventilating and renewing the air of our apartments, especially if small and crowded.

Of the dangerous and even fatal effects of stagnant and tainted air, many instances are recorded. Not to mention the memorable instance of the *black hole* at Calcutta, others occurred some years ago at the assizes at Oxford, in the assembly-room at Edinburgh; and about four years ago, in London; some circumstances of which merit the attention of the reader:

Eighteen charity children and a servant lay in an apartment of a house in King-street, Golden-Square: to render the room warmer, they shut up the chimney, and used every other means to exclude the cold air. Ten of the children, and the servant, were seized with symptoms nearly similar, viz. excruciating pain in the pit of the stomach, and in the back, violent head-ach, light headedness, and convulsions.

In all these instances the air became so foul, as to threaten immediate destruction.

But

But foul air does not only weaken the springs of life, but generates the most malignant and contagious diseases.^b

Hence it is, that in the close and damp cells of our county jails, the air is so noxious as to engender a malignant fever, to such a degree, that for one convict that is executed, three die of the jail distemper. It is for this reason also, that unless hospitals are very judiciously constructed, and constantly ventilated, a much smaller proportion of the patients recover, than of those who occupy separate apartments in private houses.

But independently of these and many other well-vouched facts, a simple experiment will afford a positive proof of what is now alledged,

The most neat and delicate person, after having passed the night in his bed-chamber, does not, when he awakes, discover any offensive smell in his room: but if he quits it for a few minutes, and returns to it, after having been in the open air, and before fresh

^b A philosophical critic may alledge that I here confound the ordinary contamination of the air with specific contagion; but in a treatise of this kind, accurate discrimination is not necessary.

air has been admitted, he will quickly discern an essential difference.

The same happens in public and crowded rooms; but as the offensive impression may be partly attributed to the blended effluvia from the fires, lights, and perfumes, (the latter of which by the bye are not very salutary) the experiment would not be so decisive.

If these evils arise from stagnant air in apartments frequented by the opulent, nice, and elegant, who have the means and disposition to promote neatness and cleanliness; how much more injurious must stagnant air be in the hovels of the indigent, who are destitute of all the conveniences, and many of the necessaries of life !

The effects of foul air are so much the more dangerous, as they do not always manifest themselves immediately in the form of disease; so that when they do, the disorder is rarely attributed to the right cause.

I shall endeavour to explain, as briefly and intelligibly as possible, the reason why the effluvia from human bodies are so injurious; as such explanation will point out the means of lessening, though perhaps not totally obviating the evil.

It has been already remarked in a former essay,* that many of the organs which compose our wonderfully complicated frame are employed in discharging particles of our food, or of the constituent parts of our bodies, which by the various exercise of its functions are become uselefs; and if retained, especially the inflammable air and alcalescent particles, would necessarily become very noxious, and the causes of many diseases. Many of those discharges, especially from the surface of the body, and from the lungs, are, even in the most healthy and delicate persons, in a state not very remote from putrefaction; but in persons labouring under disease, they are of a still more noxious nature; and hence two hints are suggested, viz. that persons in health are *not* benefited by sleeping in the same bed with invalids; and that it is peculiarly necessary to have the apartments of the sick well aired and ventilated; and their apparel, especially their linen, frequently changed.

It is supposed, and I believe justly, that more of the offensive particles of our bodies

* Natural History of the Human Body, &c.

are swept off by the air received into the lungs, than from the whole surface of the body besides; and this is the reason why the air we breathe is so soon contaminated, and rendered unfit for the support of life; and this in proportion to the air being less pure previously to its being inspired; because, thus tainted, it is sooner saturated with the noxious matter it takes up in the air cells of the lungs, and therefore carries off a smaller proportion in a given time: whereas a purer air would unite with, suspend, and discharge a larger quantity, and thereby prevent the dangerous effects of their retention. Hence it is that a moderately cold and dry air is the most wholesome.

There is another source of tainted or impure air, (besides many others which I shall not enumerate) viz. burning fuel of every kind.

That charcoal taints the air, has long been known to medical men; but it has not been so generally suspected, that candles, lamps, wood, turf, and coal fires, foul the air of the apartments in which they are burned.

An eminent and very ingenious physician of this city^d has, by applying Dr. PRIESTLEY's test, found that the fumes of burning wood taint the air more than those of coal, and charcoal more than either; and that the smoke of tallow candles is more injurious than that of wax or spermaceti.

A single candle is supposed to consume a gallon of air in a minute; and therefore a great number of candles burning even in a spacious apartment, must destroy the vivifying principle of a very large column of air in a very short space of time, not only by consumption, but contamination.

That gentleman discovered also that the human breath tainted the air more considerably in the afternoon, than in the morning: but that the effects of different kinds of paint, and of flowers, on applying the test, were less apparent than might have been expected, considering how noxious both are to the human body.

Fire has, in general, been deemed a purifier of air, and under certain circumstances it may be so in a relative degree; as, by dissipating the moisture of cold and damp

^d Dr. FALCONER.

places, and by rarefying the column of air within its influence, it may favour the admission of colder and denser air.

When *Hippocrates* was consulted concerning the best means of preventing the propagation of a contagious disease (perhaps the plague) which infested a part of Greece; he advised that large fires might be made in a narrow pass formed by adjoining mountains, for the purpose of purifying the air. But it is to be doubted how far the expedient would avail; as the rarefaction produced by the heat would as readily favour a torrent of infected air from one quarter, as of purer air from the other.

Burning bodies certainly absorb a large quantity of the surrounding atmosphere, and it is to be supposed the purest, as that is a more suitable pabulum; but it is equally certain, that they also throw off a very large portion of inflammable vapour, by which the atmospheric air is tainted: So that fires and all other burning bodies injure the air, not only by consuming the purer part, but by throwing off foul air.

From what has been said, it appears that a variety of circumstances conspire, even in
our

our habitations and apartments, to weaken, and almost insensibly undermine the springs of life; but in public meetings and private routs, the evils arising from large fires, numerous lights, and crowded rooms, are proportionably increased.

A circumstance which occurred about three years ago, first induced me to offer my opinion on this subject.

A young lively woman, who came hither to put herself under my care, gave a rout, and insisted I should be of the party. The room was small, and the company very numerous. We had not been long seated at the card tables, before a young man, my partner, after having undergone various changes of countenance, fell into a swoon. The doors were thrown open to afford him fresh air, and my patient, who was a delicate invalid, was much injured by the sudden exposure to the current of cold air. How the rest of the company were affected, I had not an opportunity of knowing; but my own feelings and sufferings for many hours after I retired, convinced me of the dangerous consequences of such meetings.

On

On declaring, a few days after, to one of my brethren, a man of humour, my resolution of writing a bitter Philippic against routs; he archly replied, “ Let them alone, “ Doctor, how otherwise should *twenty-six* “ physicians subsist in this place?”

From some experiments made, if I recollect aright, by Dr. LETTSOM, on the atmospheric vapour of London, collected and condensed, it was found to contain such a proportion of noxious impregnations, as might reasonably appear to be a great source of the putrid fevers which are prevalent in that great city; and as all cities and towns are, in proportion to their extent, productive of similar exhalations; this circumstance affords one reason why cities are more subject to epidemic diseases than the country; and it appears from the bills of mortality, that the proportion of deaths is generally one third greater in the former than the latter. But if to this general cause we add the effects of hot and crowded rooms, in which fashionable persons pass many hours almost every night, the injurious effects must be very great.

I proceed

I proceed now to point out the means by which these evils are to be obviated.

It may be laid down as a self-evident proposition, that as the extremes of heat and cold are very injurious to the human frame, especially if they rapidly succeed each other; so it is incumbent on those who wish to preserve health, to endeavour to establish such an equality in the temperature of the air they breathe, as to avoid an excess of either.

The public rooms of this city, though very spacious and lofty, are, however, so heated by fires, lights, and a croud of company, as to be very injurious to those who frequent them.

On the ball nights one door of the ball-room is generally left open, and the chimneys afford a vent, in some degree, to the foul and rarefied air. But this is not sufficient, as is manifest to the feelings of every person on passing into them from the outer rooms. Those who frequent the card rooms have not even the benefit of an open door, unless when persons pass and repass, when the cold air rushing in by starts and intervals, is more hurtful than beneficial.

I would

I would therefore propose that the casements of all public rooms, and indeed of private houses, shall be so constructed, as that the upper division shall slide down, and that a certain portion of them, according as the room is more or less crowded, be always kept open. By thus promoting a free and constant circulation of air in every apartment, whether occupied or not, the internal and external air become nearly of equal temperature; the foul air which is generated in close unoccupied chambers, and which adheres to the walls and furniture, will be carried off before it is accumulated, and the usual practice of airing rooms, by opening the windows, and warming them with fires, will be less, if at all necessary.

But without altering the construction of the sash, the heat of the sitting rooms may be safely moderated, and the air corrected, by raising a part of the sash most distant from the fire, and dropping the curtain before it. This expedient will be more necessary after dinner, when the air of the room has been tainted by the steams of the foods: or, as persons in this country sit some hours after dinner, it may be proper to retire into another

other apartment immediately after the dishes are removed.

The opening of the windows being, even in private houses, much above the level of our bodies, obviates the objection of its being injurious, by exposing us to a current of air.

But the truth is, that unless the wind sets strongly from the quarter opposite to the open windows, the rarefied and foul air, rushing through those apertures, counteracts and resists the column of cold air. This is evident from a simple experiment. Apply a burning candle to the upper crevice of the door of a heated room, the flame will tend outwards; if to the bottom crevice, inwards; a proof that whilst the heated and foul air rushes out at the upper crevice, the colder and purer air enters below. Hence the impropriety of double doors, linings, listings, and sand-bags, all of which, by preventing some degree of ventilation, contribute to the evil which I wish to obviate.

A thermometer placed in public rooms, and the sitting rooms of private houses, would regulate the degree of heat, which in the winter ought rarely to exceed 58 or 60 degrees of *Fahrenheit's* thermometer; whereas
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when this test is applied in heated and crowded rooms, it is found to exceed it considerably.

To preserve the healths and amend or confirm the constitutions of the rising generation, is certainly an object of great importance: Therefore, school-rooms and bed-chambers, where a number of young persons are crowded together, ought not only to be spacious, but well ventilated.

I have been induced to make this remark, by a very recent instance in this city of the dangerous effects of neglecting this precaution; and do most earnestly recommend to the masters and mistresses of boarding-schools, a due attention to this circumstance; and to parents, that they enquire into the manner in which their children are accommodated in this respect. The same precaution is necessary with regard to nurseries; especially as servants are, in general, both from habit and prejudice, fond of hot and close apartments.

A lady of this city, who consulted me, had the casements of her apartments altered in the manner I have suggested; and has been benefited by the experiment.

It

It is obvious, that by these expedients for regulating the heat of the rooms, we should not only breathe a purer air, but, in a great measure, avoid the dangerous consequences of rushing from heated rooms into cold air; the difference being, in frosty weather, often between 50 and 60 degrees.

All persons, but especially invalids, when they go into a close room from the open air, ought not to approach the fire immediately; but if cold, bring themselves gradually to the temperature of the air of the room, which ought rarely to exceed 60. If, from inspecting the thermometer, which ought to hang at some distance from the fire, it is found to be considerably higher, the fire ought to be lessened, or more of the upper flues opened. By such precaution, they will not only avoid the debilitating effects of a sudden transition from extreme cold to great heat, but be less affected by the foul air thrown off by the burning fuel. For this reason I am, from what I remarked in traversing the continents of Europe and America, convinced, that stoves are preferable to open grates, not only because they diffuse the heat more equally; but carry off
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the inflammable air extricated by the fire: Those which are constructed by Mr. SHARP, an ingenious tradesman in London, are much preferable to those which I have met with abroad: The small expence of fuel is a consideration which merits attention.

I shall close this chapter with some remarks on our sleeping apartments.

If we allow only eight hours in the twenty-four to sleep; though many persons, especially invalids, spend many more hours in their bed-chambers, we shall find that during more than one-third of our time, we breathe the same stagnant impure air, highly impregnated with noxious effluvia.

Those who have not experienced the benefits resulting from the expedients I shall propose, are not conscious of the evils which proceed from sleeping in confined and small bed-chambers. But from the instances of the fatal effects of air contaminated in a high degree, already mentioned, there is the strongest presumption that in a lower degree, the effects, though more insidious, must nevertheless be very injurious.

The great and good Dr. HALES, whose studies and experiments were constantly directed

directed to the benefit of mankind, recommended a trial of his ventilators in the Savoy and Newgate prisons, in both of which malignant fevers were frequent and fatal: The good effects exceeded the most sanguine expectations; for a very small proportion of the sick died after the use of the ventilators, and a constant circulation of air being thereby procured, the contagion seems to have been totally extinguished.

The ventilation of our ships of war and transports, on a similar principle, has contributed to render them more healthy, and to abate the violence, and lessen the frequency, of that destructive disease the scurvy.

The worthy and benevolent Mr. HOWARD found that the jails on the continent were entirely free from malignant fever, owing to the apartments in which the prisoners were confined being spacious, and consequently well ventilated.

These circumstances strongly confirm the benefit to be derived from the expedients I have proposed; which are only different modes of ventilation; and it may be farther remarked as a collateral proof, that we feel
ourselves

ourselves lively and alert in a pure air; and Dr. PRIESTLEY tells us, that his feelings and breathing were remarkably pleasant when he breathed that kind of factitious air which he calls dephlogisticated, and which is much purer than the common atmospheric air: The inference is obvious.

I would therefore, not only from long personal experience, but from the information of others to whom I have recommended it, advise, that not only invalids, but persons in health, admit a free circulation of air in their bed-chambers, by various ways, and in different degrees, according to the season of the year and other circumstances.

During the warm close weather of the summer and autumnal months, the chamber door may be left open for a few nights; afterwards a part of the sash may be left open; but the current of air intercepted by the shutter: and as the person becomes more habituated to free air, the shutter also may be left open, and the current prevented by dropping a window curtain before it.

In the colder months, a window in an adjoining apartment may be left open, as also the door of communication; opening or
closing

closing the shutter, according as the wind does, or does not, blow directly from that quarter. Chimney boards, as very great impediments to a free circulation, ought never to be admitted in any apartment.

Thick curtains closely drawn around the bed are very injurious; because they not only confine the effluvia thrown off from our bodies whilst in bed, but intercept the current of pure air.

It may be objected, that by the admission of cold air, persons, especially invalids, would be apt to *catch cold*, as it is commonly called: but so far from this being the case, I aver, that diseases from this cause generally proceed from persons being exposed to cold after being previously much heated: and so far is excessive warmth from being conducive to the cure of colds, and their many dangerous consequences, that they are always exasperated by hot close apartments, and hot regimen; and therefore the best means of preventing diseases from cold, is to avoid the contrary extreme.

Those persons who have a window open in the bed-chamber, or an adjoining apartment, need not be under any apprehension

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of

of suffering by a current of air being immediately directed upon them whilst in bed; because, if the upper sash be open, the current will be considerably above the level of the bed; but if the lower sash be open, it will be prudent to draw so much of the bed-curtain as to prevent the wind from blowing upon the person in bed. But the danger of catching cold from such current is more apparent than real; for if the head and body be properly covered, there is no hazard; and one advantage of thus admitting air is, that persons who are in the habit of lying very warm, will by this expedient find themselves much less oppressed and heated by a load of bed-clothes; as the lungs, like the funnel of a stove, discharge the heated and foul air by means of the cool air admitted by every inspiration.

It may also be alledged, that, from the experiments of Dr. INGENHOUSZ, night air is noxious; as vegetables in a growing state throw off, in the shade, a great quantity of noxious air. But allowing the result of these experiments to be such as the Doctor has related, it may indeed be an objection to keeping flowers in our apartments, but none

to the night air in large cities, where no vegetation goes on.

It will be expected that, instead of arguing from general principles, I should adduce instances of the safety and utility of this innovation; and the expectation is reasonable: but it would swell this essay too much to enter into numerous and minute details; I shall however mention a few circumstances, in addition to my remarks on Dr. HALE'S ventilators, which will, I hope, carry conviction along with them.

It is an incontrovertible truth that, in general, such persons as are precluded, by necessity, from the indulgence of warm and close rooms; and are deprived even of the benefit of comfortable firing, are more hardy, and enjoy firmer health, than the opulent; though no habits of living can afford an entire exemption from disease. Hence it is, that though indigence, and pinching want, in many of the lower rank of every society, is a grievous relative evil; yet affluence and luxurious indulgence expose us to distresses of a different kind, and there is nearly a compensation throughout; the balance being rather in favour of the middle rank in every society.

Of the safety of the practice I recommend, my own family affords a manifest proof; nor have I ever heard that any of my friends or patients who have made the experiment, have had any reason to repent it, but the reverse.

About sixteen years ago I attended the late Sir JOHN ASTLEY, whilst he resided on his estate at Everley in Wiltshire. This old gentleman, then above 80, lay, during the severest part of the winter, in a room without fire, and a bed without curtains, and every morning plunged into the cold bath; and had he not, from a spirit of obstinacy, neglected and mismanaged himself when labouring under a complaint not dangerous in its nature, he might have survived several years longer.

That the admission of cold air into bed-chambers is of use in preserving health, cannot be doubted by any who have read the preceding part of this chapter; for if foul air weakens and destroys the springs of life, pure air must necessarily support and invigorate them.

If at any time I neglect to admit air into my bed-chamber, before I go to bed, my night is spent uncomfortably, I am hot and feverish

feverish, and I wake distressed by head-ach, and other disagreeable feelings. This may be partly attributed to habit; but it affords an irrefragable proof, that cool and pure air is more friendly to the human system, than our being immersed for many hours in the hot and putrescent vapours exhaled from our own bodies.

Impure air is peculiarly inimical to the nervous system: it relaxes and enfeebles the general habit, and increases the irritability of the body.

On conversing with a sensible and ingenious *gentleman* on this subject, he informed me that he had for many years laboured under a complication of nervous symptoms, for which he had obtained no relief from medicine. He at length determined to try the effects of ventilating his chamber in the manner I have mentioned; and has been benefited thereby beyond expectation.

* Mr. LUCAS, of the York Hotel at Bath.—If an University education, very respectable family connections, urbanity of manners, and integrity of heart, constitute a *gentleman*, no man has a higher claim to that character than my old friend Mr. LUCAS.—Many years ago I knew the brother of an English Peer in Ireland, in the same rank of life, and with similar qualifications.

On my communicating these remarks to an eminent physician here, he favoured me with the following letter.

“ I do not wish to have my name mentioned in the detail of my case; it will be sufficient to say, that having for many years been occasionally subject to palpitations of the heart, shortness of breathing, great anxiety and depression of spirits, universal tremor, and other symptoms of the kind, usually called nervous; after trial of many medicines of the antispasmodic kind, I found nothing so effectual as a strict attention to preserving a due temperature of body during the night, at which time the above symptoms were most apt to recur. In order to preserve this temperature, I found it necessary to use only a moderately thin quilt in the summer, with an addition of a moderately warm blanket in the winter, and no fire in the room; one window of which was kept open all night in the summer, and the whole of the day in cold weather. This regimen produced sound and refreshing sleep, and almost an entire exemption from many troublesome symptoms of a similar kind that frequently came on in the day time.”

Other instances have occurred to me of a similar kind; but not so decisive of the efficacy of this practice: These cases, however, will, I flatter myself, encourage invalids, those especially who labour under nervous complaints, to give a fair trial to means which are likely to contribute so much to their ease and comfort.

Many persons who labour under chronic diseases, are distressed by an irregular fever, which, from the impure air they breathe for many hours in bed, is most troublesome in the night. I know, from experience, that it is much abated, and sometimes entirely removed, by the admission of cool air; and the slumbers of the invalid become less interrupted, and much more refreshing. To such as labour under catarrhal coughs, which often terminate in consumption, to such also as labour under this disease in an advanced state, and to the asthmatic, this mode has been singularly beneficial.

To conclude; I can venture to affirm, that, by a cautious use of the expedients I have recommended, diseases may often be prevented, and invalids frequently relieved.

E S S A Y : III.

An ENQUIRY concerning the propriety, or necessity of using other REMEDIES, during a Course of MINERAL WATERS, or of SEABATHING.

WATERING places have, for some years, been very much resorted to, not only for the purpose of amusement and dissipation, but for the benefit of invalids.

Though physicians have, in general, approved of sea-bathing, as a powerful remedy; yet they have not been so unanimous with respect to the efficacy of other mineral waters.

Some physicians have been of opinion, that the proportion of their active principles is so small, that they are very little better than common water; whilst others, acknowledging the efficacy of some, have denied the medical virtues of others.

It is probable that, whilst the physicians who reside at watering places have, from local experience, acquired an *overweening* predilection for particular mineral waters; others, not having been in the habit of considering them as a part of medicine, are disposed to undervalue them.

There is a considerable diversity of mineral waters in this kingdom, which, from the nature of their active principles, must have different powers, and consequently must be adapted to the relief of different diseases.

Of those invalids who resort to watering places, some consult the resident physicians, others are furnished with prescriptions and general directions by the physicians or apothecaries who send them thither; some put themselves under the direction of apothecaries; and not a few, deeming all advice unnecessary, act according to their own opinions, feelings, and caprices.

Various reasons may be assigned why such persons are generally disappointed. Some of them, by drinking the waters without preparation or a correspondent regimen, or in too large a quantity, are much disordered by them: Others use them too sparingly; in either case they quit the place under an impression that the waters are destitute of medical powers; or that they are not adapted to their particular cases.^f

Another

^f I am credibly informed that some of the invalids who come hither are such rigid œconomists, as to be contented with the medical advice which they procure from the New Bath Guide,
price

Another error committed by many, is their allotting themselves a certain time for the use of the waters; beyond which period it is not always in the power even of the physician they consult to persuade them to give the waters a fair trial. It is nevertheless sufficiently evident that, from the diversity in the nature of diseases, and the difference in degree, even of the same disease, a cure, which in one case may be effected in two months, will in another require five or six: This is frequently confirmed by instances which occur in our General Hospital; where patients, who after six months have not been apparently relieved, have nevertheless been compleatly cured at the end of more than twelve months.

If we consider mineral waters (including sea-water, which is of this class) as medicinal;

price one shilling; whilst others have recourse to the Pumpers and Guides for directions concerning the use of the waters. Were such persons really so indigent as to be unable to purchase advice, the Hospital would receive them; if not, they justly merit all the consequences which generally result from their sordid parsimony.

Some persons of this description, after having consulted a physician once or twice, think themselves qualified to proceed on the stock of knowledge thus obtained; but, for reasons to be assigned in the following pages, they are often disappointed.

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and if we suppose that some previous preparation for, or regulation of, their use, may be necessary; it is likely that those who enter on a course of them without advice, may not merely lose their time and money, but actually injure, and even destroy themselves.

The late Lord STRANGE (as I am informed by Dr. FALCONER who attended him) died of an apoplexy, in consequence of the injudicious use of the Bath water; and Baron DIMSDALE tells me he recollects a similar instance many years before. The instances of the alarming and dangerous, though not immediately fatal effects of these waters, when used improperly, are very numerous:—An incontrovertible proof of their powers.

Were distant physicians who send patients hither with general directions for the use of the waters, supposed to be quite as well acquainted with their qualities and effects as those who reside here; *a supposition not to be admitted*; yet no medical man will venture to assert, that a variety of circumstances may not arise, which cannot be foreseen, and consequently cannot be provided for: and indeed instances of that kind occur daily, even under the eye of the resident physicians.

It

It has been said, that the apothecary, to whom the prescription is sent, may be a competent judge of the necessary regulations. Though it would be invidious to controvert this position; yet it may *at least* be asked, why, if a patient's case is so urgent as to require the advice of a physician in London or elsewhere, it should be less necessary to consult a physician at Bath also; who may justly be supposed to be more conversant with diseases in which the Bath water is beneficial, than those who send the patients hither.

It would not, indeed, be matter of surprise, if one apothecary were disposed to transfer his patients to another; yet this happens very rarely: whilst, from the conduct of some physicians, it might reasonably be supposed, that they considered apothecaries as their only coadjutors. Whether this be the result of extreme humility, excessive arrogance, or mean jealousy, they alone must determine.

But it has been whispered by some of their patients that have come hither, that they were dissuaded from consulting Bath physicians, not only because it was unnecessary, but from a *tender regard* to the patient's pockets;

pockets; their Doctors insinuating, that, if they once got into the hands of the resident physicians, it would not be easy to shake them off. I trust however, for the credit of the profession, *as gentlemen*, that very few have been so uncandid and unjust to their brethren of this place; but I know that the imputation is not totally without foundation, and that some of their patients have suffered thereby, not only in their purses, but in their healths.

Among many other instances which have occurred, I shall mention one.

A person of fortune on his arrival here, sent a physician's prescription to a judicious apothecary, who, on calling on him a few days after, found him much heated, and exceedingly distressed, by an intemperate use of the waters; though the mode of using them, as directed by his London physician, had been strictly complied with, and the other remedies prescribed were taken very regularly. The apothecary, in vain, persuaded him to desist from both, and to consult a resident physician: he replied, that he was strictly enjoined not to do so, but to correspond with his London Doctor only. The Doctor, on
being

being applied to, insisted on a continuance of the waters, but changed his prescription; with so little success however, that he was sent for by express; and his fee amounted to a much larger sum than would have procured his patient the attendance of half the physicians in Bath during the whole season.

As I have almost totally declined the practice and emoluments of my profession, I shall not be suspected of partiality, when I declare, that, *a few instances of dirty intrigue, and sordid avarice excepted*, no professional men I have ever known discharge their duty *in general* with more liberality and disinterestedness than the physicians of this place; or derive more moderate emoluments from it.

It happens, not unfrequently, that the cases of the patients who come hither to use the waters are such as will not admit of their use; so that when a physician has been consulted, he has been obliged to forbid their being used, and either to send the patients back to their quondam prescribers, or undertake their relief by other means.

A gouty patient consulted me last summer for some complaints which were found to be connected with gravel. As I could not
remain

remain at Bath so long as was necessary, I left him under Dr. FALCONER's care; by whose judicious management he was perfectly relieved, without the use of the waters.

In my limited practice I have met with some other instances of invalids, who have been sent hither for the benefit of the waters, whose cases were totally incompatible with their use. On the contrary, it happens, I believe, very frequently, that in diseases in which the Bath waters are eminently useful, they are nevertheless deemed improper by those who, from inexperience of their powers, are certainly incompetent judges.

The celebrated Dr. MEAD, under the influence of a preconceived hypothesis, condemned their use, as a bath, in paralytick cases; though the internal and external use of the waters has been found to be more beneficial in such cases, than all other remedies whatsoever. A very late occurrence has convinced me that some of the most eminent physicians in London still adopt Dr. MEAD's opinion; though manifold proofs of the safety and efficacy of warm bathing in palsies occur daily in private and hospital practice.

A lady

A lady of my acquaintance, being on a tour with her daughter, who was in a bad state of health, sent for me, as she passed through this place in her way to Bristol. It seems her *doctor*, a *prescribing apothecary*,^z had reprobated the use of the Bath waters.

On a cursory enquiry into the case, I was of a different opinion; but as I was on the point of making a summer's excursion, and the lady declined consulting another physician, I left her, with necessary directions, to the care of a judicious apothecary; and by a letter from the lady, I had the pleasure of knowing that my opinion with respect to its being, in every respect, a Bath case; and my prediction, that much benefit would accrue from the waters, was verified beyond my most sanguine expectations.

^z I did not, till lately, know that such a race of pseudo-doctors existed; they are not however, I believe, very numerous. Whilst the London college exercises a power of examining all physicians who practice in the metropolis and its environs; it will be expected that they should take due notice of those apothecaries, who, not content with the emoluments derived from selling medicines, have the presumption to require fees for prescribing to their own shops: Some surgeons, it is said, have also encroached on the department and emoluments of the physician:—A practice equally illiberal and unjust.

I know

I know there are some medical men who take every opportunity of reprobating the use of Bath waters, in cases where other remedies avail very little without their assistance: the most favourable construction that can be put on such conduct is, to suppose that they know very little more of the powers of the Bath waters than their coach-horses; for I am unwilling to suppose it possible that they can be actuated by illiberal motives.

I shall conclude this chapter by an enquiry how far medicinal waters may, or may not, require the use of other remedies.

The physicians of the present time are much more simple in their modes of prescription than their predecessors; and when patients resort to watering-places, a prudent physician will cautiously avoid the imputation of selfishness, and therefore will prescribe as sparingly as possible, during a course of sea-bathing, or the use of other mineral waters.

But it frequently happens, that the occasional use of other remedies may be indispensibly necessary.

It is well known to medical men, that, when diseases are inveterate, we are often

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obliged

obliged either to change one remedy of the same quality for another, or increase the power of one medicine by the addition of another. This is the case also with medicinal waters, which, though in some cases they may require very little if any aid from other remedies; yet in many instances they are not *alone* sufficient to effect the purpose.

Few patients are in such a state as to be able to enter on a course of this kind without some preparatory medicines; and with respect to the use of Bath water, this is peculiarly the case. After this necessary preparation, the dose of the water is to be ascertained, and the medical man (whether physician or apothecary) must watch the effects of the water, and determine from time to time what increase of dose his patient will bear. Bathing may be, and is often, necessary: the times of bathing, the degrees of heat, and other circumstances, can only be ascertained by careful observation: the regimen of diet, &c. must moreover be fixed upon, and the regulation of all those important points must depend on the nature of the disease, and the effects of the water.

Many

Many untoward circumstances may occur, which may render the interposition of the prescriber necessary. Drinking the waters, or bathing, under the most guarded use of either, may produce disagreeable symptoms, which may require either some alteration in the mode of using them, a total suspension of the use of them for a time, or the interposition of some remedies, which may qualify their effects, increase their power, or remove such symptoms, which either they, some casual incidents, or a change in the disease, may have produced.

In the course of a former summer, I had many opportunities of confirming this opinion. Being on the sea coast, and acting there as a *volunteer* physician, I was very generally consulted by those who resorted thither for the purpose of sea-bathing. Several were sent thither whose cases were improper; and others could not bear the cold bath, unless accompanied with the use of cordial and strengthening medicines: and I am persuaded that similar difficulties must occur under the use of all medicinal waters, whether used internally, or applied externally.

In the General Hospital here, many more patients recover than in private practice: the reason is, that the patients are obliged to comply most strictly and implicitly with the physicians' orders, respecting diet, medicine, and the use of the waters; whilst, from inattention, dissipation, or self-sufficiency, private patients frequently fail in obtaining relief, and often return much worse than they came hither. But whether medicine may or may not be required in aid of mineral waters of any kind, it is manifest, from the foregoing observations, that courses, whether of drinking or bathing, ought not to be undertaken without medical advice and attendance.



E S S A Y IV.

C H A P. I.

On EMPIRICISM, or QUACKERY.

HÆ TIBI ERUNT ARTES.

PUDET HÆC OFFROBRIA NOBIS.

THE term *Empiricism* is derived from a Greek word which signifies *experience*, the foundation of all science, especially of physick.

There was an antient sect of physicians who were termed *Empirics*, in contradistinction to the *Dogmatists*; but there is a most essential difference between those *antient sages* and our *modern quacks*; for the former availed themselves of accurate philosophical *analogy* founded on experience; whereas the latter are so little accustomed to any kind of reasoning, that they are generally destitute of common sense.

Few men have taken more pains in attempting to discover the origin, trace the progress, and detect the ignorance and knavery, of modern quacks, than myself; and

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as quackery has arrived to a truly alarming height, especially in the British dominions, I thought I should essentially serve my fellow subjects, by endeavouring to stem the torrent of this dangerous evil.

The earliest source of quackery seems to have been an opinion entertained by the vulgar, and perhaps not very strenuously discouraged by physicians, that there was something mysterious and supernatural in the medical art. Hence the idea that the cure of diseases was often effected by magical powers and astral influences; so that in the ages of barbarism, priests, soothsayers, astrologers, and fortune-tellers, laid their claims to medical knowledge and practice.

When chemistry began to be cultivated in Germany, many chemical remedies were discovered and adopted in regular practice: The empirics however, having pilfered some of the most powerful from the regulars, sold them as nostrums; and *Paracelsus*, *Van Helmont*, and other quacks, by their vain and insolent boastings, contributed very much to the extension of the evil.

For many ages all medical knowledge was conveyed in the dead languages only, a few
books

books excepted, written by Arabian physicians in their native tongue; and I may venture to assert, that the translation of those works into modern languages, especially the dispensatories of the different colleges of physicians, has contributed exceedingly to the encouragement of quackery; for from that source the most ignorant and worthless members of the community, having acquired a very superficial knowledge of the most powerful remedies, found a more ready resource for supplying their necessities, and even attaining affluence, by vending them as infallible nostrums, than by following their proper vocations of astrologers, almanack-makers, tailors, cobblers, weavers, *carpenters*, *farriers*, porters, and footmen.

Whilst itinerant mountebanks were in fashion; though the breed is almost extinct in this country; the merry-andrew generally succeeded his master, and from tumbler and buffoon was exalted to the dignity of doctor; when in the velvet coat and tye-wig he drew teeth, cut hare-lips, and dispensed his infallible remedies, *solely* for the benefit of his fellow subjects.

Several

Several of those *respectable* gentlemen became afterwards resident doctors, especially in London; and to some of them, and their no less respectable successors, the public is at this time indebted for some of our most celebrated nostrums.

It may be alledged, that these animadversions are dictated by envy and jealousy.

Independent in my circumstances, and approaching the verge of life, I do most solemnly aver, that I have not advanced any thing concerning those men or their nostrums that does not admit of proof; and that my *sole* motives for this publication are, a regard for the interests and welfare of the community, and the credit of that profession of which I have the honour of being a member.

When physicians, by laborious study, and at considerable expence, have qualified themselves for the exercise of their profession, it cannot be very agreeable to them to find their art so much degraded, as that the most illiterate of mankind (for such quacks generally are) could be supposed capable of discharging the duties of it: For so far as regards emolument, I verily believe that physicians suffer little by empirical practice.

With respect to the employments of those people before they commenced nostrum-mongers:—The celebrated WARD, whose remedies are now neglected, because they are known, was a *footman*, and during his attendance on his master on the continent, obtained his nostrums from the monks, who are almost all quacks.——ROCK had been a porter; as was WALKER, the vender of the famous Jesuits drops.——The celebrated electrico-magnetical GRAHAM, who lately made such a noise in this credulous nation, exhibited on a mountebank stage in *America*; and, it is probable, served previously in the office of zany.—MEYERSBACH,^b who, availing himself of the credulity and cullibility of the good people of this kingdom, has acquired a fortune equal to that of a *German* prince, offered himself as a *rough-rider* to a riding-house in London, but being rejected, commenced doctor.——TURLINGTON was a broken master of a ship.——One FREEMAN, who annexes M. D. to his name, was a journeyman blacksmith, and is lately returned from one of our colonies, where, as an

^b The ignorance and effrontery of this fellow has been properly exposed by Dr. LETTSOM.

indented servant, he was employed to shoe and bleed horses.¹—And I remember two fellows in Hampshire, who gathered and dispensed their drugs under astral influences, one of them a *weaver*, the other a *cobler*, who being too idle to follow their employments, found their account in becoming doctors.

Some of these nostrum-mongers have been appendages to the profession; and broken apothecaries and chemists have quitted their proper callings for this idle trade.

Dr. JAMES, finding that book-making was a losing business, derived more advantage in vending his celebrated powder, and analeptic pills.—Sir JOHN HILL, also a voluminous author, dispensed his tinctures and essences :

¹ This self-created M. D. has accused me of misrepresentation ; but the gentleman who gave me the information, and several others of most respectable characters, have confirmed the allegation, with some other circumstances of his character which it does not concern the public to know ; as being unconnected with his medical pretensions.

A friend of mine, who read the manuscript of the first edition, told me I certainly should be *stung* by some of these empirical *wasps* ; but the anonymous and illiterate epistles of these *dull* rogues have evinced them to be merely *drones*.

The brutal and *sordid* artifice of one of those vermin, a *hoary* assassin, though he evaded legal punishment, richly merited the discipline of a horse-pond, or a niche in the pillory.

—and

—and NORTON acquired a considerable fortune by his Maredant's drops.*

The newspapers some months ago, announced the death of one of these doctors, who has of late been much celebrated. This man, who could not procure bread as an apothecary, would soon have realized a large fortune as a quack. Availing himself very artfully, of *fashionable* prejudices, and in order that his pills might be adapted to all the fashionable diseases, he wrote a pamphlet to prove that nervous and bilious diseases were intimately connected with gout and with each other. As some sort of reasoning and argument is generally expected in medical dissertations, he pilfered, without acknowledgement, an idea started thirty years ago by Dr. SHEBBEARE, viz. that the primary cause of all diseases proceeds from excess or defect of the electric fire; the novelty and *verity* of which could not fail to recommend it to his fashionable readers. Successors, however, to this celebrated gout doctor, have

* The active and enterprising spirit of the other sex has produced several female adventurers in this line, who are, *at least*, as great proficient as their brethren, in the art of puffing off their nostrums.

started up like mushrooms; and, like them, will probably soon *rot* into oblivion.

That these men, at least most of them, have pilfered their nostrums from regular practice, admits of the clearest proof. The specifications of some of the most powerful of those nostrums, given upon oath, are to be found in the patent office; to which any person may have recourse on paying the fees; and most of the others have been analysed, and their composition discovered.

Another artifice employed by those pests of society, is to attribute their nostrums to some celebrated physician after his decease; and the names of FOTHERGILL, HUNTER, and SOLANDER, have been prostituted to those knavish purposes.

It is now well known, that WARD's medicines, except his paste, which is a most absurd composition, had long been in regular practice before he adopted them.

TURLINGTON's *balsam* is the Traumatic balsam of the shops. NORTON's *drops* are a disguised solution of the sublimate mercury, which was recommended by Baron VAN SWIETEN, physician to the late *Empress* of Germany. DAFFY's *Elixir* is the tincture of
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sena of the shops. ANDERSON'S *Pills* are aloes with oil of anniseed. SPEEDIMAN'S *Pills*, extract of chamomile, aloes, and one or two other trifling ingredients. STOUGHTON'S *Drops*, the stomachic tincture of the shops. GODFREY'S *Cordial*, an infusion of saffrafras, syrup, and opium. *Beaume de Vie* consists of aloes, rhubarb, and salt of tartar, with a large proportion of liquorice juice to disguise the other ingredients. CHITTICK'S nostrum is nothing more than soap lees: and *Poudre Unique*, is a combination of mercury and antimony. In short, there are none of these nostrums that have not been analysed by skilful chemists; and, independent of some trivial additions, all of those of any power (a few trifling tinctures of vegetables, those of HILL particularly, excepted) are compositions of mercury, antimony, or opium.

JAMES'S celebrated *Powder*, it is asserted, was known and administered in this country above one hundred and twenty years ago; but fell into disuse, and was again revived as CORNACHINE'S *Powder*. About the year 1746, Baron SCHWANBERG, a needy adventurer, communicated the prescription to Dr. JAMES, on certain conditions of co-partnership,

ship, which not being fulfilled on the part of JAMES, a law-suit was instituted against him in Westminster-hall; and JAMES attempted to evade the penalty, by alledging that he employed a different kind of antimony in the preparation: a plea which would not have been admitted by a jury of chemists.

It would however be illiberal and unjust to alledge, that, absurd and unchemical as the preparation certainly is, it is not a remedy of power and efficacy; for from my own extensive experience, I know it to be so; but the same experience enables me to assert, that, from the nature of the composition, its operation is very uncertain, and that the other reguline preparations of antimony are more safe and certain in their operation, and equally effectual.

The only circumstance which established the credit of this powder was the bold, yet judicious, practice of gradually increasing the dose according as the stomach became more habituated to its stimulus, or the urgency of the case required: and I cannot help expressing my surprise that this mode of administering active remedies has been so much neglected by regular practitioners; and I am
well

well convinced from long experience, that if antimonial wine, emetic tartar, or even ipecacoanha, (a more safe and perhaps equally effectual remedy) had been so administered, we should not at this day have incurred the reproach of being obliged to resign our patients to the operation of a quack remedy. It is however to be observed, that though much benefit will certainly result from increasing the doses of active remedies, if they are given by persons of judgment, much mischief will also be done, if those who administer them are unskilful.

It would be a tedious and unprofitable task to enter into a more explicit detail of nostrum-mongers and their remedies; I have however taken notice of some of the principal; and would add moreover, that as these quack medicines are sold to retail dealers, some of them may remain on their hands for years, until they are totally spoiled, and yet they do not scruple to sell them, ignorant or regardless as they are, whether they are sound or not:—an instance of which occurred lately to a gentleman who purchased a quack remedy.

There

There was a time when physicians deemed it inconsistent with their dignity to consent to the administration of quack remedies; but if, from a knowledge of their composition, or experience of their effects, we are assured of their safety and power, it would be unpardonable in a physician to reject any means that may be beneficial to his patient; if he or his friends require it.

Nor is the art degraded by such condescension; for we only avail ourselves of those means which have been pilfered from regular practice, (as JAMES'S Powder, and almost all other nostrums of efficacy, have been :) but even were it otherwise, life and health ought not to be sacrificed to idle punctilio; but every means used, and every effort made, that may conduce to the relief of the patient.

One great objection to the use of powerful nostrums, in the way they are commonly administered, is, that as neither the venders of them, nor the purchasers, are judges of the cases in which they are recommended, there is more than an equal chance that they may be injurious: I will explain this matter.

When a physician is consulted on a case, he generally visits the patient from time to time;

time; or the case, if the patient be distant, is accurately described by a medical man, who, together with the account of symptoms, enumerates the remedies that have been previously used, and their effects. But, notwithstanding all the attention of medical men, diseases, especially those attended with fever, are so changeable in their nature, that the plan of cure is often necessarily changed, and the remedy, which is beneficial at one time, may be improper a few hours after; and this often happens *solely* from the operation of the remedy; which requires to be qualified, altered in its dose, or totally omitted.

On the other hand, the *quack*, totally ignorant of the nature of diseases, or even of the operation of medicines; who never, or rarely, sees the patient, and if he did, would be unqualified to judge of either; vends his medicine, accompanied with general directions, and without due cautions concerning the circumstances under which its operation ought to be regulated, mitigated, or omitted.

If, even under the eye of the physician, remedies often produce unexpected and untoward effects; how much more frequently

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must

must this happen in the unguarded manner in which quack medicines are used !

But if the disease should be mistaken, as it sometimes may be by the most sagacious physician, it is either exasperated by an improper remedy, or that time is lost which might have been more properly employed.

Upon the whole of what has been said, we may define a modern quack to be—a *pretender to knowledge of which he is not possessed; and a vender of nostrums, the powers of which he does not understand—in short, a swindler and a knave*, in the worst sense of the word.¹

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¹ When physicians (I do not mean quack *doctors*) adopt extraordinary modes of obtruding themselves and their *wonderful* abilities on the notice of the public, it would be no *act* of charity to place them on the same form with nostrum-mongers; and the similarity is more obvious, as, in both instances, the merits of the regular doctor and his brother quack are always much exaggerated; whilst that public, to which the appeal is made, is equally unqualified to judge of either. It is with regret, mingled with indignation, that I thus animadvert on the conduct of such of my brethren as have justly incurred this censure. In the preceding essay I took notice of their illiberal treatment of the Bath physicians; and it may fairly be presumed, that they are of the number of those, who, conscious of deficiency in personal merit, endeavour to compensate for that deficiency, by cultivating most assiduously, the good graces of apothecaries, midwives, nurses, abigails, toad-eaters, and puffing gossips. But not contented with this *indirect* attack on their brethren, they generally proceed to *direct* hostilities, and, by the dark and malignant insinuations

The legislators in almost every civilized society have considered them as pests; and have therefore enacted penal laws for the suppression of quackery.

The colleges of physicians were instituted in different kingdoms of Europe, to examine all persons who undertook the practice of the art, inspect all drugs in the apothecaries shops, and destroy such as were unfit; and there can be no doubt but their power extended to the examination of nostrums; and on their report, the venders were subject to severe penalties.

In the reign of James I. an order of council, grounded on a former law, was issued for the apprehension of all quacks, in order

insinuations of themselves or their emissaries, endeavour to blast the reputations of all their competitors. This serious charge may, by some of my readers, be deemed incredible; but it is not less true. Such ungentlemanly arts may reasonably be considered as truly *empirical*, and those who practise them as *swindlers of reputation*, and therefore greater pests of society than *swindlers of property*; inasmuch as they, in a great degree, deprive the public of the services and talents of *modest men*, who are generally as much their superiors in ability as in urbanity. That I may, in some degree, qualify the severity of this stricture, I take, with pleasure, this opportunity of declaring, that as I consider my profession as a most useful and respectable science, so I have a most sincere and affectionate attachment to all such of my brethren as discharge their duty with honour and integrity.

to their being examined by the censors of the college of physicians. On that occasion, several mountebanks, water-casters, ague charmers, and venders of nostrums, were fined, imprisoned, and banished.

This wholesome severity, it may be supposed, checked the evil for a time; but in the reign of William the Third, it became again necessary to put the laws in force against these vermin; in consequence of which, many of them, when examined, confessed their utter ignorance, to such a degree, as to be unable either to read or write: others, it was found had been attempting to procure abortion in unfortunate single women; several of them were discovered to be fortune-tellers, match-makers, panders, and bawds. Some of those miscreants were set in the pillory; some put on horse-back, their faces to the horse's tail, and their necks decorated with a collar of urinals, and afterwards whipped, branded, and banished.^m

^m A late newspaper informs us, that a person who believed his health had been injured by a quack, gave his doctor a sound drubbing, to the great amusement of the mob: it is to be hoped, however, that this mode of *feeing* will not become fashionable; otherwise it is probable that some, even of the regulars, might not always sleep in a sound skin.

Having repeatedly smarted for a direct violation of the laws, they have endeavoured of late years to evade it, by availing themselves of a power vested in the crown of granting patents for useful inventions. This has, by the sordid avarice of the officers, been shamefully abused; for it may be clearly proved, that, with respect to nostrum venders, few, if any, of their medicines could be deemed inventions, though they were obliged to annex an oath to their specifications. Of those which have been sold without the sanction of a patent (as well as those which have) it has been found, by chemical analysis, that the most powerful are dispensatory medicines, disguised by some trifling additions, whilst others have been found to consist of the most insignificant ingredients, as pith of bread, brick-dust, sheeps dung, &c. the venders depending for success on the strength of the patients' imagination, and the liveliness of their faith.

The impudent imposture of a *German* quack, who lately pretended to cure diseases by animal magnetism, induced the French king to issue an arret, which, if duly obeyed, as it probably will be in a despotic govern-

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ment,

ment, must effectually suppress quackery in that kingdom :ⁿ how far our ministers have

ⁿ Since the publication of the former edition, some of MESMER'S magnetic disciples have appeared in this kingdom. A brazier at Winchester, determined to have several strings to his bow, made a journey to London to purchase the magnetic art. Having concerted measures with his wife, they contrived an expedient to evince the *miraculous* power of his art; and whilst he remained in London, she was, in the presence of several of her companions, affected, in a very extraordinary manner, by his sympathetic influence. This was sufficient to establish his credit; patients crowded to him from every quarter, and wonderful effects were attributed to his art, even by some persons whose education and rank in life ought to have rendered them less susceptible of imposition.

A learned and ingenious clergyman of that city, however, assured me that, upon a very minute enquiry, he could not discover that a single instance of relief or cure could be authenticated; and last summer I attended a patient who had been three weeks under this Brazier's care, and who returned so ill as to be now attended by two physicians.

The report of the Commissioners, of whom Dr. FRANKLIN is one, published by order of the *French* king, proves irrefragably that the whole is a gross imposition; and though a depraved imagination might sometimes be so worked upon by the *German* juggler and his pupils, as to produce *even* convulsions; yet such effects were not the result of any medical power, and might be dangerous and even fatal.

Nothing more will be necessary to destroy the credit of this new species of quackery with the learned and intelligent, than the perusal of the very candid report, which does great honour to the Commissioners; several of whom, not being medical men, could have no motive but the love of truth; and I am convinced that if other species of quackery were dispassionately examined by learned men, not of the faculty, the futility or danger of their pretensions would be as effectually exposed.

acted

acted wisely in imposing a tax on nostrums, instead of punishing the venders, may be doubted. The tax seems to be equally politic as a former gin act, which added to the revenue, whilst it sacrificed the morals and healths of the subject.

Were I to enumerate all the instances, within my own knowledge, of the dangerous and fatal effects of a misapplication of the most powerful of these nostrums, the detail would be almost incredible: a few instances may suffice.

JAMES'S *Powder*, though confessedly beneficial in certain stages of inflammatory diseases, has, not unfrequently, vomited, purged, or sweated to death, persons labouring under low, malignant, and putrid fevers, who might have been saved by a liberal use of bark, snake-root, and wine.*

The habit of taking JAMES'S *Analeptic Pills*, since *bilious* diseases have become *fashionable*, has irreparably injured many constitutions, by creating a necessity for the frequent use of

* The celebrated Dr. GOLDSMITH was destroyed by an injudicious use of JAMES'S *Powder*; and notwithstanding JAMES'S assertion, that it had been found beneficial in the malignant yellow fever of hot climates, the reverse is undoubtedly true.

purges,

purges, which, in most of the cases in which they are used, are not much less deleterious than the most virulent poisons.

TURLINGTON'S *Drops*, given imprudently in colics, have brought on fatal inflammation of the bowels and kidneys. CHITTICK'S medicine, in one instance which fell within my cognizance, produced a fatal putrid fever. How many unhappy infants have been lulled into fatal sleep by GODFREY'S *Cordial*! and how many persons have been thrown into dangerous salivations by MAREDANT'S *Drops*! The wife of a respectable magistrate of the city of London, and my particular friend, was destroyed by the consummate ignorance of MEYERSBACH; and there is reason to believe that the valuable life of the husband was shortened by the same means.

With respect to testimonies in favour of nostrums, many are obtained by perjury, and others are exaggerated by ignorance; and whilst the supposed cures are published with much parade, the miscarriages are concealed with industrious care.^p That they may have
been

^p A notorious instance of this happened in the metropolis of a neighbouring county:—The vender of a celebrated quack
remedy

been sometimes beneficial, it would be uncandid to deny; as a powerful remedy, producing, by the violence of its operation, a great and sudden change in the constitution, may either eradicate an inveterate disease, or subvert the powers of life: but I would submit to the serious consideration of my readers, whether, as regular practice is in possession of as powerful means as any nostrum whatever, it would not be more prudent to intrust the administration of them to those, who, by a liberal and regular education, are *alone* qualified to render them equally safe and efficacious; or if they must have quack remedies, let them be taken under the eye and regulation of a person of skill.

It has been alledged, that regular practitioners, by a timid routine, or selfish procrastination, deprive their patients of those most powerful aids of which quacks have

remedy published in his paper the case of a person *supposed to be cured* by it, and annexed the name of a respectable clergyman as a witness and a voucher, without his privity or consent; and, notwithstanding the remonstrance of this gentleman, and the declaration of two medical men of character, that they could indubitably prove that the *identical person*, and several others, were absolutely *killed* by it, he not only refused to insert the cases and vouchers in his paper, but had the audacity to repeat the advertisement.

availed

availed themselves. If this charge be, in any respect, well grounded, it is more applicable to the past than present times; as a more bold and decisive practice is now very generally adopted.

Some of the abettors of these quacks (for very few of them have been able to vindicate themselves) have insinuated, that though deficient in the general principles of physic, they have acquired, by experience, not only a sufficient knowledge of the operation of their nostrums, but of the nature of the diseases to which they are adapted.

I answer, that the medical art resembles a circle, each point of which is so connected with the other, that in order to obtain an accurate knowledge of a part, the whole must be understood: And to shew the nature and extent of medical knowledge, and those branches of learning and science with which it has an intimate affinity, in my treatise on the difficulties of studying medicine, I have enumerated the qualifications necessary to form a skilful physician; and, upon a fair comparison, I may trust to the candour of my readers to determine, what portion of that knowledge can be justly claimed by the herd of nostrum-mongers.

There is so intimate a connection between all the branches of medicine, that none of them can be dispensed with in the education of a physician: as I shall endeavour to shew by the following example, which I shall, I hope, make intelligible to every reader.^p

A person complains of a *difficulty of breathing*. To form a just judgment of the nature and causes of this symptom, which is a morbid affection of manifold diseases, not only of the organs of respiration, but of others by sympathy, the consulted physician must first avail himself of his *anatomical* knowledge of the structure of the lungs, and of the other organs which contribute to the function of breathing.

From *physiology* he learns the condition of the different organs necessary to a free, equal, and easy breathing, which afford the signs of a healthy state of the organs.

From *natural and experimental philosophy* he knows that certain qualities of the air are necessary for this purpose; and that a perversion of those qualities may be injurious to breathing.

Pathology instructs him that this symptom is connected with some affection of the lungs,

^p See the philosophical sketch of the natural history of the human body and mind.

or other organs of breathing. But as he proceeds in his enquiries, the investigation becomes more intricate and perplexed, especially when he attempts to determine to which of the many diseases of these organs this symptom belongs: whether, for instance, it is connected with different species of sore throat; whether it proceeds from some fault in the lungs themselves; whether the affection is catarrhal, inflammatory, consumptive, asthmatic, rheumatic, gouty, nervous, &c. or whether, these organs being in a sound state, the evil may not proceed from the air being too hot, cold, moist, or dry; or impregnated with noxious vapours of lead, brimstone, and charcoal, &c.; or whether it may be connected with fever, or produced by various eruptions repelled from the surface, and thrown on those organs; as of miliary rash, itch, small-pox, measles, &c.; or, finally, whether, neither the organs nor the air being faulty, it may not proceed from blood or other humours floating in the cavity of the breast or belly; or from some diseases of the heart, liver, stomach, and other organs, worms, &c.; the lungs being only affected by sympathy or contiguity. If the case be
still

still obscure, he endeavours to elucidate it by enquiring into the former state of the patient's health, his mode of life, the diseases he has been subject to, and his temperament or habit of body. From all these, compared with each other, he with the utmost caution, and by the strictest *analogical* reasoning, ascertains the nature of the disease, its causes, and its degree; he forms his prognostic concerning the probable issue; and determines what will be the best means of averting farther danger, and promoting recovery. If he errs in any essential circumstance of enquiry or judgment, concerning the nature of the disease, every subsequent step must participate of the error.

Having formed his plan of cure, he runs over in his mind all the different classes of remedies, and from those selects such as he deems most proper, and ascertains the doses of them. He assiduously watches their effects from day to day, lessens or increases their doses, or even changes them as circumstances shall suggest. It often happens that, from their operation, he may acquire a more correct, or even a new idea of the nature of the disease; or a change of symptoms in the progress

progreſs of it, may make a different mode of treatment neceſſary. Thus he proceeds, with extreme care and circumſpection, until the diſeaſe terminates in recovery or death.⁹

This, out of a multitude of inſtances which might be adduced, is the moſt ſimple and intelligible I could ſelect; and yet many eſſential and intricate circumſtances are omitted.

Such of my readers as have peruſed the preceding pages, and ſhall read my eſſay on the difficulties attending the ſtudy of medicine, with care, will, I flatter myſelf, anticipate me in the following inferences.

1ſt, That the ſcience of medicine requires extenſive knowledge, and much ſagacity.

2dly, That from the multiplicity of diſeaſes, and the difficulty of inveſtigating their nature, even the moſt ſkilful may err; but that they, *and they only*, are qualified to correct their errors by nice obſervation, and accurate reaſoning.

3dly, That much danger may ariſe from unqualified perſons undertaking the care of

⁹ It will not be neceſſary to apologize for this explanatory narrative; as the *medical ladies* are in the daily habit of hearing and detailing fictitious caſes of *wonderful* maladies and *miraculous* cures.

the sick; and that quacks in general, *whether male or female*, are totally deficient in medical knowledge.

4thly, That how effectual soever quack remedies may be; yet their being administered without a due knowledge of the disease, or attention to the effects of the remedies, may be attended with fatal consequences; and that if ever they relieve, it must be by chance.

But as it may be deemed an act of injustice to any man who claims the merit of an invention, to deprive him of the reward of his ingenuity, I would propose, that every person who has invented an useful remedy should, on oath, deliver the prescription to three members of the colleges of physicians of Britain or Ireland, appointed by their respective Legislatures, and that, after a fair trial of its efficacy, a reward be voted by parliament.

There is nothing novel in the proposition; as something similar was done in the case of Mrs. STEVENS's medicines.

Or should it be alledged, that physicians may not report candidly on the result, some members of the Royal Society might be joined with the medical men, as has been
very

very judiciously directed by the French king in the case of animal magnetism.

If such a regulation should be adopted, it would be necessary to suppress the nostrum-mongers, by enforcing, with rigour, all the laws enacted for that purpose; and should the other regulations which I shall take notice of in the next chapter be carried into execution, I am firmly persuaded, that many of the most valuable members of the community, now annually lost, would be saved, to the great emolument of the nation.



C H A P. II.

L A D Y D O C T O R S.¹

Mrs. HARDCASTLE.

Did I not prescribe for you every day, and weep while the receipt was operating?

TONY LUMPKIN.

Ecod! you had reason to weep, for you have been dosing me ever since I was born. I have gone through every receipt in the *Family Physician* ten times over; and you have thoughts of coursing me through *Quincy* next spring.

She Stoops to Conquer, Act 2d.

I HAVE allotted a separate chapter to my very respectable sisters and coadjutors; as it would have been an unpardonable insult to have put them on a level with the sordid and selfish race of nostrum-mongers; to whom, I am persuaded, they are very much superior in every liberal and *medical* accomplishment: though I am apprehensive, they may be *somewhat deficient* in those qua-

¹ This term does not quite please me, because some of the other sex have also a strong propensity to quackery; however, the proportion of female doctors being at least ten to one of the male, their claim to pre-eminence is indisputable.

lifications which would be necessary to their commencing physicians, if the branches of knowledge enumerated in the essay on the difficulties of studying medicine, are indispensable, as they undoubtedly are.

Ladies (or gentlemen) doctors may be defined *sage* personages, who not only physick themselves; but, *without fee or reward*, prescribe, and often administer their remedies to their friends, dependants, and poor neighbours.*

I proceed to enquire how it has happened that the fair sex has arrogated to itself the privilege of discharging the duties of the physician and surgeon.

As, by their domestic avocations, and the neatness, delicacy, and tendernefs, peculiar to the sex, they have ever been deemed well

* I have however known several *doctors* of this description, who were much more alert in prescribing, than in taking, *even* their own prescriptions: and I have generally concluded, that their confidence in their own skill suffered *some* abatement when their personal safety was concerned. Human vanity is much gratified on every occasion wherein we can evince our superiority, with respect either to rank, opulence, or knowledge; and it must certainly be a very flattering circumstance for a *lady doctor* to possess, or seem to possess, a degree of scientific knowledge by *six hours* hard medical study, the attainment of which costs a *male dunc* the labour of as many years.

qualified to discharge the duty of nurses; so, from the habit of administering remedies, they at length assumed a right of prescribing them: The transition was easy and natural.

This laudable ambition of filling the first department of the medical art is of considerable antiquity: for we know that, among our Gothick ancestors, women were the chief physicians; and as female emulation is unbounded, they also claimed a place at the national councils; and even discharged the duties of the *corps diplomatique* with singular address and success.

H 2 Though

† Besides the *queen of Sheba*, who was her own plenipotentiary to the *wisest* of kings; the result of whose royal *tête à tête* has been amply detailed; we have two other instances of female plenipo's; one to Charles the XIIth of Sweden, whose embassy failed, merely from want of gallantry and *politesse* in the iron-headed Monarch: But the lady, afterwards Duchess of Portsmouth, succeeded better with *our* Charles, and, by her *very honourable* connection with that prince, had the pleasure of contributing greatly to the glory of the *Grand Monarque*. Of the superiority of female talents in the arts of government, *our Elizabeth* and the *Thalestris* of the North, afford shining examples, and though it has been invidiously supposed that a late race of our kings chiefly derived their embarrassments and misfortunes from *petticoat* influence; I cannot, for the honour of the sex, assent to the allegation; as we know that female influence has long predominated in the councils of a neighbouring kingdom, remarkable for the subtilty, *rectitude*, and success of its political evolutions.

The

Though the female hereditary claim to the medical department has been disputed, and occasionally usurped, by their male rivals, they have never been able totally to supersede them; and it is certain that they have, to this day, retained a considerable share of their former medical consequence.^u

In those halcyon days, when men of rank and fortune spent the greatest part of their time at their country mansions, the mistress of the family necessarily commenced a *Lady Bountiful*; and, not contented with the exercise of the chemical art in preparing her preserves and pickles, had recourse to her family receipts, *all of them infallible*; and

The fair sex has been no less eminent in every other department of erudition and science; some have excelled in classical learning, criticism, history, and philosophy; others have evinced superior talents in the fine arts; a few have even entered deeply into the abstruse speculations of geometry and metaphysics; and it is evident that they have a prescriptive claim to the province of physick: The period therefore, is not, perhaps, very remote, when our academical chairs, *that of rhetoric especially*, may be very ably filled by female professors—when ladies shall become fellows and even *presidents* of our colleges of physicians—and lady doctors superintend the healths of crowned heads. In the *Asiatic* and *African* courts, there would be *peculiar* propriety in such appointments, as they might minister in more than one capacity.

^u In so much that few of our profession have attained any degree of *eminence* and *celebrity* without the aid of female patronage

from

from this invaluable store of knowledge, acquired the art of preparing plaisters, salves, and surfeit waters. These she dispensed with a liberal hand; and, with much condescension and humanity, visited the sick and lame; and not only distributed her remedies, but most charitably supplied all their wants.

About the middle of the last century, indigent men of some learning published medical treatises for the use of the *Lady Bountifuls* of that day; who, from *Aristotle's Master-piece*, *Culpepper's Midwifery*, *Salmon's Practice of Physick*, and *Every Man his own Physician*, made a very *respectable* addition to their stock of medical knowledge; and it is from the same inexhaustible funds, all our nostrum venders have borrowed their *infallible* remedies.

A revolution in the habits of life has now almost extinguished the race of the *Lady Bountifuls*; and the poor are now generally resigned to the care of those humane and *tender-hearted* gentlemen, the parish officers.

It would, however, be extremely unjust to insinuate, that the present age is deficient in charity; for the very reverse is the case; as is evident from the liberal subscriptions to

hospitals and pauper dispensaries, and the readiness with which distressed individuals are relieved. The ladies also still retain their natural disposition to do good; and, when they retire to their country seats, carry with them a medicine chest, generally the *refuse* of a druggist's shop; and from that magazine, not only physick the whole family, but dispense their remedies to all the indigent neighbourhood.

Without presuming to arraign the motives for this act of charity, I would only observe, that in their mode of dispensing it, they fall short of their predecessors: for, instead of following the example of the quondam *Lady Bountifuls*, they commonly take their report of the patient's case from an upper servant, to whom the administration of the remedy is intrusted; whilst the supply of nourishment ordered for the sick is generally intercepted by the postillion or stable-boy, who is employed to deliver it.

As the *doctors*, of this description, are ready to assign various reasons for the exercise of their art, I shall consider and reply to them separately.

1st. They

1st. They alledge, that, as they understand their own constitutions, they are best qualified to determine what is fit for them.

If, by a knowledge of constitution, the ladies mean that they have learned, from experience, what foods and drinks, and what modes of living, are most agreeable to their constitutions, I concur with them in some measure; though, as our constitutions change at different periods of life, and often in consequence of disease, it may happen, that what is suitable at one time may be very improper at another; especially if the maxim be extended to the use of medicine.

2^{dly}. They assert that, whether they prescribe for themselves, or for others, they deal in nothing but *simple* things; which, if they do no good, cannot do any harm.

I answer, that if the diseases for which they prescribe have a dangerous tendency, and there are few diseases which have not in some degree, delay creates danger; and it often happens, that when means, equal to the urgency of the case, are omitted, the season for relief is irretrievably lost; and a slight disease frequently degenerates into a mortal malady.

In

In this way, I am convinced, thousands of most valuable subjects are annually lost to the community; of which a great proportion die of that fatal English malady *consumption*. Instances of this kind occur daily to physicians, who have reason to lament that their efforts are unavailing, and their art discredited, in consequence of neglect or mismanagement in the earlier stages of disease; when there was a moral certainty of danger being prevented by proper management.

There is a considerable degree of inconvenience, often of danger, in persons being in the habit of taking even trivial remedies, for the removal of supposed complaints; I say *supposed*, because they often are so; and the very operation of those drugs may create so much disturbance in the constitution, as really to produce disease, instead of preventing or removing it. This is peculiarly the case with rhubarb, magnesia, *Anderson's*, and *James's* analeptick pills, &c. the first dose creating a necessity for a second; and so on, until they become indispensibly necessary:*

Of

* In this instance I must dissent from Dr. CADOGAN, who, in the few hints he gives concerning the medical management of gouty patients, (and he considers gout as a representative of all other

Of the dangerous effects of this practice, I have given two instances in the Essay on *Fashionable Diseases*, to which I refer the reader; and two more have occurred to me since the publication of the former edition.

A celebrated ancient physician^r has cautioned us against the destructive practice of using preventive remedies; and I believe that our failure in the cure of diseases often proceeds from this practice; the constitution being, by habitual use, rendered insensible to the impression of remedies, when they are really necessary.

In my Essay on *Regimen*, I have made a remark, which for its importance ought to be repeated here. In establishing an essential distinction between diet and medicine, I observed, that the difference between them was, that wholesome diet was that which was easily

other chronic diseases) seems to approve of the daily use of laxatives: indeed the whole of what he says on that head (so far as it is intelligible) is, I am persuaded, in the opinion of most of his brethren, peculiarly objectionable. The Doctor ought either to have been more explicit, or totally silent; as the practice he hints at is novel and hazardous; and, in improper hands, must necessarily be very injurious.

^r *Celsus*:—Cavendum ne præsidia adversæ valetudinis in secunda consumantur.

charged

changed by the constitution into its own nature, without producing any change by which the organs might be weakened or oppressed: on the other hand, there are very few medicines of any considerable power, those especially which promote the evacuations of vomiting, purging, or sweating, which do not change the body more than they are changed by it; and many of them are totally unconquerable by the powers of the constitution; and thereby correspond in their nature to one definition of poisons: and indeed as medicines and food may be converted into poisons, so poisons are, when skilfully administered, very safe remedies; for mercury, antimony, and opium, are really poisons in their nature.

If we are slightly indisposed, which is often the effect of luxurious indulgence, irregular hours, or both; the safest means of relief is quiet and abstinence, which enable the constitution, by its innate powers, to obviate or remove the seeds of disease.

But in no instance is this preventive plan so absurdly and injuriously employed as with respect to infants, children, and young people; and by this means many a tolerable constitution

constitution has been physicked into a state of irremediable weakness, infinitely worse than premature death.

3dly. As an apology for the modern practice of keeping closet medicines, and amongst these an assortment of quack nostrums; it is alledged, that, beside their not being able to trust to apothecaries remedies, which are often bad in their kind, the apothecaries' bills are exorbitant, and much enhanced by their selfish procrastination.

To these complicated charges, I reply; that the most creditable and conscientious apothecaries generally supply themselves with compound chemical medicines from Apothecaries-hall, and that it is likely they would, for their own credit, procure better drugs than those usually sold as *closet* medicines; as they are certainly better judges of their qualities than any person not of the profession.²

With

² I have however had many opportunities of being convinced that some apothecaries and druggists are either so unskilful or so selfish, as to purchase bad medicines, or continue to vend them after they become unsound.

To remedy this great evil, it is submitted to the wisdom of the legislature, whether some expedient may not be fallen upon to oblige all apothecaries in the British dominions to supply themselves solely from Apothecaries-hall with every species of medicine.

With respect to the exorbitance of charges; as an apothecary is obliged to have a large assortment of medicines, many of which may never be used before they spoil; I am persuaded, that, though the charges are apparently high, their advantages are not, on the whole, greater, or so great, as those of retailing tradesmen. Respecting the last charge; I believe that, with regard to men of any credit or character, the insinuation is cruel and without foundation.

4^{thly}. A reason assigned for persons of slender means having recourse to the use of quack remedies, is the high fees of physicians, and the insufficiency of apothecaries.

It is a delicate task for a physician to discuss the point with regard to the qualification of apothecaries.^a If their education be
sufficient,

cine. That great and wise Princess, the *Empress of Russia*, has directed that no remedies shall be dispensed in her extensive dominions, except such as are vended under her authority.

^a There is an old Latin proverb, which implies “that the cowl does not make the monk;” and I am sorry truth obliges me to declare, that it is so far applicable to our profession, that every man who assumes the title of M. D. has not, either by his education, skill, or conduct, any just claim to the distinction; whilst men under the denomination of surgeons and apothecaries may, by genius and education, be possessed of the abilities, without the credentials of a physician. Unhappily, however, for the community,

sufficient, physicians are *unnecessary*; but as the publick does not yet entertain that opinion, any more than the apothecaries themselves,

nity, the instances are rare, and it is still more unfortunate, that the public at large are not qualified to distinguish them from their ignorant and presuming brethren. I believe many of my brethren, as well as myself, are much gratified when they meet with men of this character; and are disposed to consider them rather as respectable coadjutors, than as holding an inferior rank in the profession.

Whilst I am upon this subject, I would just observe, that the extra-licences granted by the London college, to country surgeons and apothecaries; and the honorary diplomas granted by the English and *some* Scotch Universities, to men who had not only *not studied* at them, but had not even seen them, are extremely derogatory to the credit of the profession; and very injurious, not only to those physicians who have obtained their degrees by residence and examination, but to the public at large: For though I am firmly persuaded, and even know, that some of those gentlemen, who come under the former description, are men of real merit, yet the mode in which they have obtained their degrees is certainly very irregular and improper.

I have been led to add to this long note, by a letter I received from an advertising quack since the 2d edition of this work went to press, and who boasts of his being a graduate of a college of Aberdeen. I know that *some* of the northern universities of this kingdom have, *to the disgrace of literature and science*, granted diplomas to illiterate men, who, so far from having ever studied at, or been examined by, these universities, never studied at any.

From instances probably similar to this, some gentlemen bred at Oxford and Cambridge have sometimes insinuated, that all *Scotch* degrees in medicine are equally questionable: but I cannot allow this opportunity to escape me, of vindicating the northern part of this kingdom from the *indiscriminate* and *invidious* imputation.

selves, a few self-sufficient men excepted; it is much to be regretted that the fees of physicians are so high, that few, excepting people of

1st. The University of Edinburgh is the *only* one in the British dominions, from whence physicians are not warranted to enter on the practice of their profession, without a certain term of residence, *medical* study, and *professional* examination.

Should it be alledged that the gentlemen in the medical line at Oxford and Cambridge take the degrees of Bachelor and Doctor at their respective Universities; I answer, that, from the obsolete institutions of those Universities, the *Elèves* of both, who chuse to enter on the *medical* practice, are prescriptively warranted to do so, without taking either; and many of them pass 'that Bourne from whence no traveller returns' without being Doctors or even Bachelors of Physick; and consequently without having undergone a single *medical* examination.

2^{dly}. That the English Universities, and that of Dublin, have *hitherto* been so little deemed *medical* schools, how respectable soever in every other branch of literature and science, that most of the senior physicians were obliged to study at Leyden, under the celebrated *Boerhaave*; and almost all the juniors have acquired their education at Edinburgh; so that none *but a few weak men* continue to claim any superiority from their alliance with Universities, from which they could not acquire any *medical* knowledge,

3^{dly}. That medical degrees by ^{*mandamus*} ~~Commendam~~, or by Bishop's licence, ought, in this enlightened age, to be totally abolished; the first, as a very improper and *injurious* exertion of Royal prerogative; the second, as a gross abuse of episcopal privilege, unless we suppose, what cannot be admitted, that the Metropolitan is as *skilful* a physician, as he is an *able* divine.

4^{thly}. That, to check the imposture of Pseudo-doctors, it were to be wished that the Legislature would authorise all Magistrates of Corporations to call upon every person who assumes the character of a physician, to produce credentials of his having *studied*
and

of opulence, can conveniently have *early* recourse to their assistance. The only expedient by which this evil can be remedied, would be to adopt the regulations established in most other parts of Europe, viz. to permit none but physicians to prescribe in medical cases, and surgeons in their department; that apothecaries be confined to their original employment of making up prescriptions;^b and druggists and chemists be, under a severe penalty, prevented from vending drugs by retail; whilst the regulation of quackery on the plan laid down in the former chapter, would tend very much to place the practice of physick on a respectable and beneficial footing.

and been *examined* for his Bachelor's or Doctor's degree, at the University from whence he has obtained his diploma.

The reader will, I flatter myself, believe, that I can have no other motive for these remarks, than a filial zeal for the honour of *Alma Mater*, a proper sense of the dignity of my profession; and a due regard for the welfare of my fellow-subjects.

^b The term *apothecary* is derived from a compound Greek verb which signifies to deposite; and the substantive implies a repository of drugs; so that apothecaries evidently deviate from their original destination, when they become *prescribers* instead of *dispensers* of drugs: However, according to the present constitution of physick, which stands in need of much reform, it would be impossible to limit them to their proper occupation, unless the fees of physicians were reduced.

There

There are several reasons to be assigned for the fees of physicians being so high. Excepting a few, who have really too much employment to do proper justice to their patients, the major part are rarely called in until it is too late; and this rather to *save* appearances, than with any great hope of *saving* the patient. Thus many years elapse, before the emoluments of his profession are more than sufficient to support a physician in the rank of a gentleman. If, in process of time, his employment becomes extensive and profitable, he is willing to compensate for his former loss of time; and to endeavour to secure for himself a decent independency, and a provision for his family. But that the profession is *not* lucrative, is evident from the small number of physicians who acquire large fortunes.

A physician of London, now deservedly in great practice, assured me several years ago, that, with considerable business, many years had elapsed, before his annual income was equal to 800*l*.

This was, in some measure, to be attributed to a liberal plan he adopted of accommodating his fees to the abilities of his patients;

patients; infomuch that, on a fair calculation, partly from the smallness of the fee, never or rarely exceeding half-a-guinea, and his gratis visits, he did not receive more than half that sum on an average; and that, taking one patient with another, he did not receive more than one guinea for the whole of his attendance during a fit of illness. This gentleman has since been amply rewarded for his humanity, and indeed, if we consider the time and labour many physicians bestow in attending hospitals, dispensaries, and other charitable institutions, and the many visits they make gratis, the profession will be found not to merit the imputation of avarice and rapacity: though, as among all other orders of men, there may be, and are, exceptions.

Fees ought certainly to be adapted to the abilities of the patients, and other circumstances; and a man of honour and probity will distinguish those circumstances wherein he ought to relax in the article of fees.

Men of fortune, high spirit, and great generosity, are very much disposed to gratify the physician in a manner which, if his disposition be not fordid, he will not accept of; and yet it is a very delicate task to refuse on

I

such

such an occasion without giving offence: on the other hand, as there are many, whose circumstances, when compared with their station in life, enable them to do that justice to the physician, which their narrow spirits incline them to deny him; such ought not to be spared; nor do persons of this turn deserve to be treated with any degree of delicacy.—Many persons of a valetudinary habit have acquired such an unlucky bias of mind, as never to be satisfied without the attendance of the doctor, and a constant course of medicine; an honest man will discourage such a disposition, and avoid availing himself of this unhappy propensity.

Tender husbands, parents, or relations, to satisfy themselves that they have done their utmost, shall often solicit the attendance of the physician, though they know that all remedies must be ineffectual; here it would be as cruel to decline an attendance, which might give satisfaction to the miserable patient, or consolation to the afflicted relations, as it would be sordid to insist rigidly on the article of fees.

Persons who, with very limited incomes, are obliged to support a genteel appearance,
(among

(among whom, I heartily wish I were not obliged to rank a set of men truly respectable by their learning and function) may often want the assistance of a physician; though by no means able to gratify him in a manner corresponding to their inclination, or to established custom. Under such circumstances, a physician of a liberal turn of mind will fall upon such methods of accommodating his demands to the situation of his patients, as shall not hurt the delicacy of persons, whose feelings, and sense of propriety, are generally in proportion to their education.

I take this opportunity of introducing an observation not inapplicable to the present subject:—

As the powers of the mind are generally weakened by disease, persons naturally of firm and steady dispositions often become; under the influence of bad health, timid, irresolute, and peevish. Hence it is, that, if not speedily relieved, they change their physicians, and, disgusted at length with the regulars, generally become a prey to ignorant and knavish quacks.

Thus it is that thousands, whose maladies would certainly have yielded to judicious and steady management, have fallen a sacrifice to caprice and credulity.

I think it my duty, therefore, most earnestly to recommend to my readers, never to employ a medical man in whose skill and integrity they have not entire confidence; and that having made their choice, they do adhere steadily and implicitly to the use of the means he prescribes; and though their too sanguine expectations of relief are not gratified, they ought not therefore to arraign either the skill of the physician or the power of medicine.

A change of physicians seldom answers any good purpose; and I may venture to aver, that even consultations rarely contribute to the benefit of the patient: with respect to the employment of quacks, or the use of quack medicines, I refer the reader to what I have said on this subject in another essay.

As for those who labour under imaginary diseases, “*who are sick by way of amusement, and melancholy to keep up their spirits,*” I recommend to them the perusal of the very
ingenious

ingenious Mr. COLMAN's farce of the Spleen; where this dangerous propensity to quackery is ridiculed with infinite wit and humour.

It may and does happen, however, that diseases at first imaginary become at length real; the functions of the body being gradually depraved and impaired by anxiety and despondency.

This, among many other instances, seems to have been the case of the wife of a London tradesman; who, after having undergone a long course of regular and irregular practice, came very lately to Bath, and consulted me.

The only *benefits* this good woman seemed to have derived from her medical discipline, were a broken constitution, a ruinous expence, and a medical jargon, composed of the different opinions of her quondam doctors. I therefore found this poor woman more disposed to explain her symptoms, than to describe her feelings. Happily for her, the last nostrum-monger she employed attributed all her symptoms to *Bile*; and he having, during twelve months, exhausted all his skill in attempting to tame this monster, the patient being accidentally informed that Bath waters *were good for the bile*, came hither

ther with the most sanguine expectation that the water would do for her in *three weeks* what her doctors had not been able to effect for her in three years.

Thus it is that wretched hypochondriacs ruin their constitutions and embitter their lives, by their perpetual solicitude about the preservation of both; and from their unhappy propensity to try every new remedy that is recommended to them, have contributed exceedingly to extend and support the present destructive spirit of quackery.

5thly. The Lady Doctors, since the publication of some *popular* medical books, proceed with more confidence in their private practice than their predecessors; as deeming those books sufficient guides in every case that can occur; and when they deign to consult a physician or apothecary, it is rather with an expectation of having their medical sagacity applauded, than their errors corrected.

When a physician hints his disapprobation of such publications, he is suspected of sinister motives; and as medical men are supposed to be very averse from every attempt to remove the veil of mystery by
which

which the art is supposed to be involved, I shall, to avoid the imputation, faithfully detail the substance of a conversation held some years ago, (the quotation excepted) and leave the reader to draw his own conclusions; and for the sake of brevity, will throw it into the form of dialogue.

About twelve years ago I was desired to visit the wife of a gentleman of very respectable character, and of profound erudition.

Having examined into the state of my patient's case, I was shewn into the library, and found on his table *Tissot's Avis au Peuple*, and *Buchan's Domestic Medicine*.

He joined me in a few minutes, and the following dialogue commenced:—

A. How is your patient, doctor, and what is her disease?

B. From the general symptoms, I am inclined to think there is some danger in the case; but the disease seems to be so complicated and obscure, that I have not yet been able to ascertain its causes, seat, or nature.

A. The confession is ingenuous: are you always so explicit?

B. Always, when I can rely on the good sense and candour of the persons concerned.

A. On

A. On perusing the introductory chapter of a book^c published a few years ago, I was induced to study medicine as a branch of philosophy; and if you cast your eye over my books, you will find a tolerable collection, all of which I have read with care; but the knowledge they afford me has not inspired me with sufficient confidence to attempt the practice of the art, and therefore I requested your attendance.

B. It gives me much pleasure to attend the family of a gentleman who is a judge of medical practice. Physicians, as the Rosacrusians of old, and alchemists of latter days, have been accused of a wish to impress mankind with an opinion, that their art is mysterious and inscrutable to all but the initiated: but from this imputation I claim an exemption; and in that respect, I have the honour of concurring with one of the greatest and best men who ever adorned our profession;^d and in the publication to which you allude, I have expressed my surprise and

^c Commentaries on the Principles and Practice of Medicine, by the Author.

^d The late Dr. Gregory, Professor of Medicine at Edinburgh.

concern, that, intimately connected as medicine is with natural and experimental philosophy, so few men of learning have enquired into its principles as a science, unless with a view to practise it as an art. Men of general learning might, without much study or labour, acquire the leading principles of an art, in the improvement and support of which, they are, in every relation of life, so deeply interested.—“ A private
“ gentleman (says Dr. GREGORY) who has a
“ literary turn, and chuses to study medicine as a curious and interesting branch of
“ natural history, will find the history of his
“ own species a more interesting subject,
“ than the natural history of spiders and
“ cockle-shells. To him such a degree of
“ knowledge only is necessary, as may enable
“ him to understand medical books of merit,
“ and to judge of the comparative merit of
“ those men to whom he is to commit the
“ important charge of his own health, and
“ the health of those whom he is obliged
“ by the ties of nature and humanity to take
“ care of. If such men were to claim their
“ right of enquiry into a subject that so
“ nearly concerns them, the good effects on
“ medicine

“ medicine would soon appear. They would
“ have no separate interest from that of the
“ art: they would detect and expose assuming
“ ignorance, and be the judges and patrons
“ of modest merit.

“ Cases very often occur, where an inge-
“ nious physician sees his patient hastening
“ to certain death. He knows a remedy that
“ affords a probable prospect of saving his
“ life; but it is uncommon, not agreeable
“ to the established orthodox opinion, and
“ perhaps dangerous in its operation: Here
“ is a dreadful dilemma. If he gives the
“ remedy, and the patient dies, he is utterly
“ ruined. The *dunces*, who are the most
“ numerous in every profession, are always
“ at war with genius, and watch its miscar-
“ riages with an anxious and malignant eye;
“ all his prescriptions must remain on the
“ apothecaries file, and rise up in judgment
“ against him, and upon any miscarriage,
“ the outcry is raised and propagated with
“ the utmost malignity.

“ The only tame and believing patients
“ are *the men of sense*, who generally submit
“ to their physician, whoever he is, with
“ wonderful faith and patience; while all
“ the

“ the midwives, nurses, and old women, are
 “ physicians; and the dignity of the most
 “ stately of the profession is often obliged to
 “ stoop to the folly and caprices of such
 “ people, who are sometimes of more consequence
 “ in making a physician’s fortune
 “ than all the merit he can possess.”

A. I well recollect the substance of the quotation from Dr. GREGORY’S introductory lecture; which I have read with much pleasure, and a sincere respect for the candour and liberality of that ingenious professor.

I have often been astonished to find men of learning and science, from ignorance of the knowledge necessary to form a skilful physician, commend, as miracles of medical skill, persons who in their conversation and manners evinced the ignorance and vulgarity of a groom. How can this be accounted for, but by supposing that *even* men of erudition deem learning and science to be totally detached from medical skill; and that bald experience is unconnected with medical principle? How therefore can we be surprised that empiricism is countenanced by all ranks, when the most discerning have formed so false an estimate of the healing art!

B. I have

B. I have had repeated opportunities of making the same observation.

A moderate knowledge of medical principles would be of great use to the *clergy*, especially those who reside in the country. The middle and lower ranks of people are in general very averse to medical assistance; and very unsteady in the use of it: but a clergyman, when he knows that he is qualified to give his opinion, will make use of his influence to induce his parishioners to apply early for relief, and to persist in the use of proper means; which medical men, from a suspicion of their being interested, can rarely prevail on them to do. Some thousands of most valuable subjects are lost every year in this kingdom, by their avarice, their obstinacy, or their indigence. A country clergyman, thus qualified, will also be able to render very essential services to the parochial poor: he will, in some degree, be a judge of their diseases, and be able to determine when they want assistance; and what kind of necessaries the parish officers ought to supply them with, not only to assist the efficacy of remedies, but to promote recovery, and prevent relapse.

A. I sincerely

A. I sincerely wish that my brethren of the clergy would employ part of their leisure in the enquiries you recommend.

Just before you arrived I had been turning over two books now on the table, that I might endeavour to form a tolerable judgment of the nature of your patient's case; but have been disappointed: nor am I surprised to find I have been so, after the frank declaration you have made. What is your opinion of compilations on this plan?

B. You have assigned me an invidious task, which I wish to decline. *Tissot's* work might be of some use in the mountains of Switzerland, where medical assistance of any kind is rarely to be met with; but I doubt whether the other was *so* necessary in a country where medical men abound.

A. As you decline being more explicit, I will venture to give you my opinion.

These compilations either *are* sufficient guides, with respect to the treatment of every disease which occurs, or they *are not*. If they are, the medical art is comprised within a much smaller compass than I conceived, or indeed have found it to be, on perusing some of the best books in every branch of
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the science: and, so far as respects the study of it as a science, I may, without presumption, hold myself to be a tolerable judge.

If Dr. BUCHAN's compilation is sufficient to enable an ordinary reader, male or female, to commence physician, the many years of study and application deemed hitherto to be indispensibly necessary to the education of a physician, must have been totally misapplied; and Dr. BUCHAN, and the rest of his brethren who adopt his sentiments, *if any such there be*, ought, if they are honest men, to resign their claims to practice, in favour, *I will not say of apothecaries*, but of every old woman who has abilities and patience sufficient to *spell* the book. If these works *are not* sufficient guides, and I did not require the present case as an evidence that they are not, I will venture to pronounce such publications to be very injurious; because they have a manifest tendency to encourage a dangerous species of empiricism, *now very prevalent*; by inspiring a confidence of skill and ability which they cannot impart; and the author is therefore responsible for all the consequences.*

* It is with reluctance I detail these *genuine* strictures on the publication of a brother fellow of the same college; who, I believe,

B. Ignorance and presumption are generally concomitant; and I believe, that men of the first abilities in the profession, in proportion to the extension of their practice, their experimental conviction of the mani-

lieve, is a very respectable physician—*Amicus Plato, sed magis Amica veritas*.—I am however persuaded that the *Domestic Medicine* is a good compilation of modern practice; but addressed to persons in whose hands it becomes a *dangerous edged-tool*. The only good purpose it is likely to answer, is its being a tolerable memorandum-book for apothecaries.

A very ingenious clergyman of my acquaintance tells me, that being an invalid, he some time ago read a part of Dr. BUCHAN's book, and finding himself strongly impressed with an idea that he suffered under each successive disease, as he proceeded, he thrust the book into the fire, and with the *Domestic Medicine* dismissed his imaginary maladies.

The ingenious Mr. COLMAN has, with exquisite humour, exhibited the effects of medical reading on hypochondriacs, in the character of *Doily* in his farce of the *Spleen*; and I have no doubt but Dr. BUCHAN has contributed very much to increase the number of those wretched beings.

No circumstance has given me more pain from the anonymous epistolary scurrilities of the quacks, than their daring to insinuate that I place Dr. BUCHAN on a level with those wretches:—*nos poma natamus*; for no candid reader could draw any such inference. I have taken the liberty to dissent from respectable physicians in the course of these essays; but always, I hope, with candour and good manners.

The truth is, the nature of my plan required that I should be explicit in my opinion of the injurious effects of such publications as that of the *Domestic Medicine*; and I have had the pleasure of convincing some gentlemen of learning of the impropriety of publishing such books.

fold difficulties which attend the investigation of diseases, and the mortifying disappointments they meet with in their attempts to remove them, become daily more cautious and diffident; whilst those who have only *caught the eel of science by the tail* unhappily conceive they have no difficulties to encounter.

This self-sufficiency is often, and indeed generally, the result of a false and erroneous analogy. If a lady doctor hears of a case in which a particular remedy has been successful, she uses, and recommends it, on the faith of an ignorant relator, in every case which is supposed to be similar; though it is more than probable that there is really no similarity: or she consults the *Domestic Medicine*; and having compared the Doctor's description of the disease with the patient's symptoms, prescribes with great confidence. It may however, *unhappily for the poor patient*, happen, that in consequence of some *small mistake* in analogy, the prescription fails, much time is lost, and the physician or apothecary is called in to rectify the consequences of delay or mismanagement, which is not always in his power.

Physicians

Physicians know, and often from painful experience, that such is the diversity of aspect which diseases assume, not only from difference of constitution, but in the various stages of their progress, and even from the untoward operation of medicines; that *no general description of diseases, or rules of practice*, which can be derived from books, will avail; but that, with all the assistance which strict analogical reasoning, grounded on extensive experience, can afford them, they sometimes err in ascertaining the nature of the disease, and therefore necessarily in applying the means of relief.

In such a dilemma, however, it will not be denied that they are better qualified to discern and rectify the error, than any of the *élèves* of Dr. BUCHAN'S *school*.

A. I heartily accord with you.

I shall conclude this chapter, by expressing my wishes, that the arguments I have urged, from the most disinterested motives, may make a proper impression on my fair readers; and I do most earnestly recommend to their

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consideration,

consideration, whether, in those instances where they venture to perform the duties and offices of the physician, *they are not in danger of incurring a breach of the sixth commandment.*



E S S A Y V.
B O O K I.
O N
R E G I M E N.

Malim convivis quam placuisse coquis.

MART. EPIGR.

Est modus in rebus, sunt certi denique fines

Quos ultra citrave nequit consistere rectum.

HOR.

C H A P. I.

Regimen defined—Objects of it—Advantages of it—Longevity, the Causes of it.

PROP. I. REGIMEN, IN A MEDICAL SENSE, IMPLIES THE GOVERNMENT OF OURSELVES WITH RESPECT TO WHATEVER CONCERNS THE PRESERVATION AND RESTORATION OF HEALTH.

§. 1. **I**N the following Essays I shall consider *Regimen* under three heads.

1st. *That which respects the preservation of health.*

2dly. *That which is employed in the cure of diseases.*

K 2

3dly.

3dly. *That kind of diet which is best adapted to eradicate, or at least much alleviate, obstinate and inveterate diseases.*

§. 2. As it is impossible to cure a disease, unless by accident, if we do not understand its nature; so, to have an accurate idea of the nature and properties of regimen, we ought previously to comprehend those circumstances of the body and mind, which constitute the health of both; otherwise *regimen* must be empirical and irrational: nor can we adapt it to the cure of diseases, without having some idea of their general nature; and as invalids often require, and are always gratified by, reasons assigned for any circumstance of regimen which may be prescribed them; and, without such information, are less disposed to be implicit in their obedience, this Essay is planned with a constant reference to ~~Essay~~^{Vol} I. just published;* and I may venture to assure the readers, that they will peruse this with more satisfaction

* A Philosophical Sketch of the Natural History of the Human Body and Mind.—N. B. When I refer to ~~Essay~~^{Vol} I. in the course of this work, I always mean the Philosophical Sketch.

and instruction, after having given the Philosophical Sketch a careful perusal.

§. 3. Though the term *Regimen* is commonly applied to diet, yet it is much more comprehensive; and is usually comprised under what is called the *Non-naturals*.

The *Non-naturals* are so termed, because when beneficial to our bodies and minds, they are *according to nature*; and when injurious, they are *not natural*, or are *contrary to nature*. The term is rather quaint, but it is sufficiently expressive. *Medicine* has been sometimes ranked among the non-naturals; but as it ought never to be employed for the preservation of health, which is a most essential purpose of Regimen, it is here totally omitted.†

The Non-naturals may be comprised under the following heads.

† Medicine was formerly, but very absurdly, employed for the prevention of diseases; nor was this practice sufficiently discountenanced even by physicians. In the last age, medicasters were in the habit of disciplining whole parishes every spring and fall, by bleedings, purgings, and diet drinks; much more to their own than their patients' emolument. But this practice is now, I believe, pretty much out of fashion: it declined with the *Lady Bountifuls*, cowslip wine, and plague water.

1st. *Foods and drinks*, adapted to the nourishment and support of the body.

2^{dly}. Such a degree of bodily or *muscular motion*, as may sustain and invigorate the internal motions of the machine, vital, natural, and animal.

3^{dly}. *Rest*, and such a portion of sound *sleep*, as may restore that vigour to the body and mind which has been wasted by watching, and the necessary exertion of the bodily functions and mental powers.

4^{thly}. The use of *air* sufficiently pure to breathe with ease and comfort.

5^{thly}. A due *defence* of the body against the inclemencies of weather and seasons.

6^{thly}. Such a regulation of the *appetites* and *passions* as may not disturb the faculties of the mind, nor the organs of the body.

These, excepting the 4th, already treated of Essay II. will be treated in due order; but as the first is the most important, it will be considered at large; for if we take into the account the diversity of age, sex, habit of body, and habit of life, even the preventive regimen must be very comprehensive; but when extended to regimen under a great diversity of diseases, it must necessarily be much more so.

§. 4. As health is an invaluable blessing, the preservation of it is of the utmost consequence; and, next to the discharge of our moral and religious duties, ought to be the primary object of our care; because the due performance not only of our social obligations, but even of those of a superiour nature, must entirely depend on our enjoying a sound mind in a sound body.

How astonishing is it, therefore, that we very rarely observe a due mean between the most painful solicitude about health on one hand; or the most careless inattention to it on the other: either embittering the comforts of life, by our excessive anxiety about the preservation of it, or so thoughtlessly squandering the blessings of health, as if it were impossible we should ever be able to exhaust it!

There is a strong propensity in mankind to run into extremes: thus the *brawny petit maitre* shivers under the zephyr's breeze, and regulates his meal of *blanc mangé* by scruples and grains; whilst the *flimsy buck*, maugre his constitutional warnings, *keeps it up* by every kind of excess, with the same propriety, as if he were to play a bout at quarter-staff

quarter-staff in a china-shop, or gallop his fiery hunter to the verge of Dover cliffs.

The instances of the benefit of regimen in the *preservation* of health are so numerous and well attested, that it would be absurd to doubt its efficacy; and though it cannot be denied, that a few persons of *iron* constitutions, notwithstanding great irregularities, have reached an advanced age; yet the instances are very few, when compared with those of premature death from intemperance and riot.

It is a circumstance worthy of notice, as it may contribute to the comfort of invalids, that long life is not necessarily connected with high health; for it is certain that many attain to a great age under a very delicate state of health; whilst neither the conveniences nor luxuries of life, with all their *apparent* advantages, are, by any means, peculiarly favourable either to the preservation of health, or to the prolongation of life. The circumstances which seem to have contributed chiefly to longevity are, being born of healthy parents; and simplicity of diet, earned by daily labour. Some very old persons have lived for many years in great indigence,

digence; a proof of Lord VERULAM's observation, that intemperance of some kind or other destroys the bulk of mankind; and that life may be sustained by a very scanty portion of nourishment: the gallant defender of Gibraltar lived eight days, during the siege, on four ounces of rice each day.

But longevity ought not to be the chief motive to a regular mode of life; but that, *whilst we do live*, we may possess a sound mind in a healthy body; a blessing, the want of which, cannot be compensated by celebrity, rank, or fortune.

The proofs of the efficacy of regimen in the restoration of health are so numerous and unequivocal, that to recite them would be unnecessary. I shall mention one instance only.

The celebrated LEWIS CORNARO, a noble Venetian, had so injured his constitution by intemperance, before his 46th year, that he could not have long survived, unless he had speedily adopted a regimen of diet, by means of which he was soon relieved from a dangerous and complicated disease, and enjoyed good health many years after: and in his 91st year, then enjoying the most perfect health,

health, published a lively and earnest persuasive to temperance; exhibiting, in the most glowing colours, a very pleasing picture of the wonderful effects of temperance on the body and mind. It is worthy of notice, that, as his gouty and other complaints were solely the effects of intemperance; so, in less than twelve months, regimen restored him to good health.

From this, and many other instances, the power of regimen is clearly evinced; and though it is certainly much more effectual, when united with suitable remedies, they rarely succeed without its assistance.



C H A P. II.

R E G I M E N O F D I E T.

Foods natural Stimuli to the Body—how distinguished from Medicine and Poisons—Repletion and Inanition—Repletion—Proportion of Stimuli to the Organs the great Source of Health—Danger of artificial Depletion or Evacuation.

PROP. II. REGIMEN OF DIET CONSISTS IN SUCH A REGULATION OF THE QUANTITY OR QUALITY OF OUR ALIMENTS, AS TO AVOID GREAT REPLETION, OR EXCESSIVE INANITION.

§. 5. **I**T has been remarked, Essay I. that foods being one of the natural *stimuli* of our organs of digestion, circulation, and nutrition ; it is necessary, for their proper movements, that there should be such a proportion between them, that the stimuli shall neither abound nor be deficient.

Diet consists of such parts of *aliment* as are convertible into the nature of our bodies,
without

without making any sudden or great changes on our organs, or their functions; and therefore all such things as do, as condiments of the stimulating kind, all fermented drinks and ardent spirits, ought to be used very sparingly, and with great caution, by persons in health; because they approach too nearly to the nature of *medicines*, which, whilst they produce great and sudden changes in the body, are scarcely changed by it, or convertible into its nature.*

With respect to *poisons*, there are few which can be justly deemed such, in contradistinction either to foods or medicines; for as *even diet* may have noxious and deleterious effects, and some of our most powerful medicines may, if injudiciously used, have all the effects of poisons; so, what have been deemed poisons, are often convertible into safe and efficacious medicines.

* Some of the writers on dietetic regimen, and among the rest Dr. ARBUTHNOT, have endeavoured to ascertain the qualities of foods by chemical analysis; but I have ever considered the attempt as precarious and fallacious: Some of them also have entered into a minute detail of the changes produced by diet on the solids and fluids; but if the distinction I have established between diet and medicine be well founded, the sensible effects of foods or drinks can only be referred to their relative stimulating and sedative powers, ascertained by the second table; and their degrees of digestibility, as connected with those powers, and pointed out in the first table.

§. 6. The terms *Repletion* and *Inanition* are often used by writers on this subject.

By *Repletion*, I do not mean *overfulness*, but merely that quantity of nourishment which is necessary to supply the daily waste of the body; and this is the genuine meaning of the word.

In establishing dietetic regimen, the great point is to preserve a due mean between fullness and emptiness; that is, that the *natural stimuli*,* or nourishment, shall be sufficient to act duly on their respective organs.—They may, however, deviate from this mean, even in health; either by their *bulk* being too great, as when a gluttonous meal suspends the digestive power of the stomach; or a copious and rich chyle oppresses the circulating system of persons who are of full blood; or by their *stimulus*, as when condiments and fermented drinks excite the heart and other organs to violent and dangerous exertions, by which temporary or permanent fever may be produced. On the other hand, the *natural stimulus* may not be suffi-

* This term is explained in the Sketch of the Natural History of the Human Body, &c. just published, Book I. chap. 2, page 10, 11.

cient, either from the quantity of food, taken into the stomach, not being such as to give its coats proper tension; and the same may happen in the circulation, when the quantity of the chyle is too small to add proper bulk to the volume of fluids, which is a chief cause of stimulus to the heart: or there may be a deficiency in the stimulating quality: but this rarely happens in health, though frequently in disease, as we shall see hereafter. In a due mean, therefore, between these extremes, consists that proportion of stimuli to their organs, by which they are enabled to perform their functions with ease, steadiness, and vigour.

Though the ordinary mode of receiving nourishment is by the mouth, yet there are other means by which the body has been nourished on extraordinary occasions; as by means of a nourishing bath, &c. when the patient has been unable to swallow. We may receive nourishment in some degree by the organs of smelling; hence the ludicrous decision of a Judge in favour of a cook, who, on his complaint that a hungry man gratified his appetite daily by the savoury steams of his kitchen, decreed, that the plain-
tiff

tiff should be repaid by the found of the defendant's money.

That nourishment is indispensibly necessary for restoring the waste of the body, is self-evident; and the reasons are assigned in Essay I.; but, under certain circumstances, the body prepares food for the sustenance of others; as females during pregnancy, and whilst they suckle their infant progeny. The milk of women has sometimes been prescribed for the sustenance of the sick; and the Grecian story affords us a most pathetic instance of filial duty in the daughter of *Evander*, who sustained her aged father by her own milk.

§. 7. *Repletion* necessarily implies a corresponding *depletion*, or evacuation of those parts of our solids or fluids, which having become useless, and their place being supplied by fresh nourishment, ought not to be any longer retained. This useless or superfluous matter is, as has been fully explained Essay I, discharged from the body by various outlets, and is one of those operations of the constitution by which the healthy balance between the organs and their stimuli is supported; and though this balance be not always

ways exactly preserved, yet the organs rectify small deviations by their innate powers; nor ought we to interfere officiously by artificial evacuations, as is too frequently done, to the great injury of health; but if, from our feelings, we have reason to suspect an occasional fulness, it will be much more safe and natural to lessen the quantity we take in by moderate abstinence, than produce preternatural discharges by emetics, purgatives, &c. which ought never to be used but under absolute disease: This caution is strongly enforced by a celebrated ancient physician:* for medicine being, from its nature, more disposed to change the constitution, than be changed by it; whensoever it is taken in health, it must always make some change, which it never can do for the better: There is also another cogent reason for never using medicine, unless upon an urgent occasion, viz. That by habituating the constitution to its stimulus in health, we shall lose the benefit of it when we really want it.

* Cavendum ne præsidia adversæ valetudinis in secunda con-
sumantur. CELSUS.

C H A P. III.

GENERAL REMARKS ON THE RELATIVE DIGESTIBILITY OF FOODS AND DRINKS.

Relative Digestibility of Foods not easily ascertained—Reasons why—Modern Physicians less attentive than the Antients—Inaccuracy of Experiments—Opinions concerning the Nature of Digestion—Mode of conducting Experiments to ascertain its Nature—Result of those Experiments—Remarks on the order in which Foods pass out of the Stomach—An Observation of Mr. Hunter's—not confirmed—Power of the Stomach estimated.

PROP. III. THE RELATIVE DIGESTIBILITY OF ALIMENT CONSISTS IN ITS SOLUTION IN THE STOMACH AND BOWELS, AND ITS READY ASSIMILATION INTO THE NATURE OF OUR BODIES, FOR THE PURPOSE OF NUTRITION.

§. 8. **F**OR a full explanation of this proposition the reader is requested to re-peruse Chap. I. Book iv. of the *Natural History of the Human Body*, and more will

L. occur

occur on this subject, in some subsequent parts of this essay.

We come now to the general observations on the table of the relative digestibility of foods; a subject attended with difficulty, owing to various circumstances which I shall endeavour to explain; and though, in the performance of this task, some of the remarks may seem to arraign the accuracy of the experimenters and writers in this branch; yet my duty to the public obliges me to be candid and explicit.

I/t. Modern physicians are less attentive to regimen, especially of diet, than the ancients were, whose remedies being few, and some of them very violent in their operation, they relied much on regimen. So that whilst every other branch of our art has been very much improved, regimen is still very imperfect: for though several treatises have been published on this subject, yet the observations are rarely to be depended upon, being chiefly drawn from theory instead of experience: Those authors being generally deficient in chemical knowledge, without which the nature of aliment cannot be understood, held
erroneous

erroneous opinions concerning the qualities of foods and drinks.*

2dly. Regimen has been less attended to, because our patients are much less than formerly disposed to conform to rules; partly owing to all ranks of men being more addicted to luxurious indulgence; and partly from an *empirical* self-sufficiency, which pervades every order in society, and renders them less compliant with the injunctions of their physicians. Even when our patients are confined to their beds by a dangerous disease, our regulations are generally complied with reluctantly and partially; especially when they are not conformable to the absurd ideas and prejudices of relations, nurses, and even of the patients themselves; but when the disease is of a chronic nature, and the patient is not restrained from society, the

* There is a work which was surreptitiously published as lectures of the celebrated Dr. CULLEN, and which often affords traits of that gentleman's chemical knowledge. I have occasionally taken hints from that work, and should have done so more frequently, had the authority been less disputable; it were much to be wished that the Doctor had given the public his own unadulterated opinions on this important subject. Dr. FALCONER has written a very useful little Treatise on Regimen of Diet under the use of Bath Waters, for which he was well qualified by his chemical knowledge.

force of former habits, and of example, is often too powerful to be resisted.

3^{dly}. Physicians have also erred in insisting, with too much rigour, on a regimen, which they know will not be complied with; so that the patient either totally disregards it, or dismisses him, to employ one who is less rigid.

4^{thly}. Those who have made experiments to ascertain the relative digestibility of foods, have either made them out of the body, or on brutes; and though of late, some experiments have been made in the human stomach by Dr. *Stevens*, the Abbé *Spalanzani*, and Monf. *Gosse*, the results have been different in several respects. The Abbé and Dr. *Stevens* made experiments on different animals; but those which are most decisive, are such as have been made on dogs; as of all the brute creation, their digestive organs and powers seem to approach nearest to ours.

I shall give a short detail of some of these experiments, and some occasional remarks from different authors.

§. 9. It may tend to amuse the reader, to relate the manner in which these experiments were

were made.—It being inferred, from some experiments made out of the body, that digestion is performed by a fermentation not very different from that by which beers and wines acquire their intoxicating nature, it was supposed that the *vinous* process, whilst the foods remained in the stomach, was the most perfect; but that after some delay in the intestines, the contents acquired an *alcalescent* nature, tending to putrefaction;* and some have been of opinion, that a putrescent tendency of the food even in the stomach is indispensibly necessary to perfect digestion.

These were supposed to be the changes which took place when digestion was perfect; but that when it was imperfect and depraved, the fermentation became *acetous*, that is, the foods became sour; or the fermentation degenerated into the contrary extreme of putrescency; or, in some cases, no fermentation of any kind took place; but the foods continued in a crude, inert, glutinous state.

These opinions seemed to be founded on observation; for even in the most healthy, whether from excess in the quantity, or some

* See Essay I. book 4. remarks on digestion, p. 159.

fault in the quality, the foods, after producing great uneasiness and oppression, and discharging much air, have been rejected, sometimes so exceedingly sour as to corrode the throat; at other times very bitter, offensive, and putrescent.

These symptoms of depraved digestion occur very frequently in diseases; and indeed there are very few diseases in which the digestion is not more or less imperfect, and frequently depraved in a very high degree. (See Essay I. p. 211.) I shall have occasion to resume this subject.

§. 10. Dr. *Stevens*, then a student of physic at Edinburgh, having chosen digestion for the subject of his inaugural thesis, made various experiments, not only to ascertain its nature, but to determine what foods were more or less digestible. He inclosed different kinds of food in hollow perforated spheres, that the gastric juices might be admitted to act upon the foods they contained. With these he first made experiments on brutes, chiefly sheep, which he killed at different periods of digestion, to examine the changes the foods had undergone. He afterwards
made

made his experiments on a foreigner, who procured a livelihood by swallowing stones and other indigestible matters.

§. 11. The Abbé *Spalanzani* made a variety of experiments on himself, and different kinds of quadrupeds and birds, by inclosing various foods in tubes and perforated spheres of wood, the result of which I have given Essay Ist. page 163.

§. 12. Mons^r. *Goffe*'s experiments were made upon himself in a very singular manner.

This gentleman has the peculiar faculty of discharging the contents of his stomach at will, by swallowing a certain quantity of atmospheric air, which, by stimulating the stomach, acts as an emetic. He therefore availed himself of this faculty, and having swallowed certain mixtures of foods for the sole purpose of experiment, he had an opportunity of examining them in the different stages of digestion.

§. 13. To gratify the curiosity of the reader, I shall here give a brief detail of the results of the experiments in which they seem

to

to agree; and shall hereafter occasionally take notice of some circumstances in which they appear to have differed from each other: I shall only premise, that as these experiments were made on healthy stomachs, they afford us no information (one instance excepted) concerning the changes that take place in disease.—The results of these experiments were,

1st. In those of the bird kind which have gizzards, as the turkey, goose, &c. digestion is performed by the muscular force of the stomach, which is very great.

2^{dly}. That in such of the bird kind as live on insects, worms, &c. as the buzzard, and sea fowls, and in beasts of prey, the gastric humours are the sole agents in digestion.

3^{dly}. That in the ruminating animals, as the ox and sheep, the food, after being some time in the stomach, is thrown back into the mouth, and undergoes a second mastication; and that the gastric juices perform the rest of the process.

4^{thly}. That in those animals which live solely on vegetables, animal foods, after being many hours in the stomach, were found to be totally unchanged; and the
same

same with respect to vegetables; in those animals which subsist on animal food; but that there are some animals of the domestic kind, as the dog, hog, and tame duck, which digest both kinds.

5thly. That the stomach of a healthy man is equally adapted to the digestion of both; that no kind of fermentation takes place in a healthy human stomach, though vegetables are apt to become sour in a small degree in the first stage of digestion; but if the acid tendency be not very great, it is corrected by the gastric juice, which in health is neither acid nor alkaline; but resists putrefaction to such a degree, that tainted meat, after being in the stomach for some time, becomes perfectly sweet;—and that the inner coat of the stomach of all animals (and some other organs of particular animals) have a peculiar power of coagulating milk, though this power does not seem to depend on acescency.

6thly. The food in the stomach of a sick buzzard was found to have an offensive putrescent smell, which shews that, under disease, the aliments may undergo changes very different from those that happen in health.

7thly. Dr.

7thly. Dr. *Brugnatelli* has found, that in the gastric juices of herbivorous animals, there is a large proportion of volatile alcali and sea salt; and in carnivorous animals, as the hawk, there is a peculiar acid, and a little sea salt. He thinks it probable that there is a considerable difference in the principles of the blood and secreted humours in different animals.

8thly. *Walleus* found that the aliments passed the stomach into the intestines in the following order: 1st. Milk in a very short time, next recent vegetables, bread in about four hours, some kinds of fish in five, some kinds of meat in six or seven hours, and beef about the eighth hour. Sometimes bread, and at other times flesh meats, have been retained much longer.

In a person who had an ulcer of the duodenum, the order in which the digested aliment passed from the stomach was accurately observed. Beer passed in two hours, fruits and vegetables in three hours, and bread and animal foods, especially if eaten in too large a quantity, were retained nine hours.

Some articles of food, and other things, have been retained a very long time in the stomach,

stomach, even for weeks, months, and years; as some animal food for months; also fish, tripe, suet, oysters, curd of milk, cheese, prunes, cherries, grapes, and pease, some of them for more than twelve months.

9thly. The very ingenious Mr. *Hunter*, having, from some appearances on dissection, advanced an opinion that digestion continues after death, so long, and to such a degree, as to dissolve even a part of the stomach itself; these gentlemen did not observe any such signs of dissolution.

I have (Essay I. page 159.) made some remarks on digestion, to which I refer my readers; and shall conclude this chapter, by observing, that as health is relative rather than positive, and is different in different constitutions, so the digestion may admit of various degrees of perfection; and therefore that all the experiments hitherto made are too few, and too little diversified, to afford us sufficient information concerning the wonderful and inimitable process of digestion.

Some of the mathematical physiologists have attributed to the stomach a contractile power equal to 534 lbs. but though it has a contractile power, it is not so considerable;
the

the *pylorus* or lower orifice of the stomach contracts, and retains the foods till they have undergone a necessary degree of digestion, when all the muscular fibres of the stomach contract and propel them.



T A B L E I.

Of the RELATIVE DIGESTIBILITY of FOODS.

A N I M A L S.

<i>A. Wild.</i>		6 Gallina	3 Afs's Milk
1 Venifon		7 Capon	4 Mare's Milk
2 Hare		8 Hen	5 Butter Milk
3 Red Game		9 Cock	6 Cow's Milk
4 Woodcock			7 Sheep's and Goat's Milk
5 Snipe	<i>C. Salted Meats.</i>		8 Cream
6 Pheasant	1 Salted Beef		9 Butter
7 Partridge	2 Mutton Ham		10 Old Cheefe
8 Quail	3 Beef Ham		11 New Cheefe
9 Teal	4 Tongue		
10 Plover	5 Bear Ham		<i>F. Shell-Fish.</i>
11 Black Game	6 Pork Ham		1 Oyster
12 Pigeon	7 Salt Fish		2 Shrimp
13 Pork, Wild Hog	<i>D. Young Meats.</i> <i>&c.</i>		3 Crab
14 Wild Duck	1 Kid		4 Lobster
15 Tame Duck	2 Chicken		5 Muscfe
16 Goose	3 Lamb		
17 Marrow	4 Veal		<i>G. Fish.</i>
18 Oil	5 Tripe		1 Whiting
19 Suet	6 Pig		2 Haddock
	7 Eggs		3 Perch
	8 Jellies		4 Mackarel
	9 Brawn		5 Sole
<i>B Tame.</i>			6 Flounder
1 Mutton	<i>E. Milks.</i>		7 Plaife
2 Beef	1 Rennet Whey		8 Cod
3 Rabbit	2 Human Milk		9 Pike
4 Goat			
5 Turkey			

10 Dory	15 Gudgeon	20 Salmon
11 Piper	16 Trout	21 Eel
12 Carp	17 Herring	22 Turtle
13 Tench	18 Brill	23 Sturgeon
14 Mullet	19 Turbot	24 Skate

V E G E T A B L E S.

<i>H. Fruits.</i>		3 ^d Skirret	12 Vermicelli
1 Strawberry		4 Turnip	13 Sago
2 Raspberry		5 Carrot	14 Tapioca
3 Currant		6 Parsnip	15 Chocolate
4 Grape		7 Pumpkin	16 Pastry
5 Cherry		8 Spinach	
6 Gooseberry		9 French Bean	<i>M. Pulse.</i>
7 Nectarine	10 Brocoli		1 Pease
8 Peach	11 Cauliflower		2 Beans
9 Apricot	12 Potatoe		
10 China Orange	13 Jerufalem Ar- tichoke		<i>N. Nuts.</i>
11 Pine			1 Almond
12 Medlar	14 Colewort		2 Walnut
13 Pear	15 Cabbage		3 Chesnut
14 Apple			4 Hazel Nut
15 Melon	<i>L. Grains.</i>		
16 Plumb	1 Rice		<i>O. Sallads.</i>
17 Quince	2 Barley		1 Cresses
	3 Oats		2 Celery
<i>I. Dried Fruits.</i>	4 Rye		3 Lettuce
1 Prune	5 Wheat		4 Endive
2 Currant	6 Millet		5 Truffle
3 Raifin	7 Biscuit		6 Morell
4 Fig	8 Brown Bread Wheaten		7 Cucumber
<i>K. Esculent Vege- tables.</i>	9 White Bread Wheaten		<i>P. Pot-herbs.</i>
1 Asparagus	10 Old Bread		1 Parsley
2 Artichoke	11 New Bread		2 Thyme
			3 Leek

4 Chive	2 Fruits prefer-	7 Horfe Radish
5 Onion	ved with fugar	8 Muſtard
6 Shalot	3 Salt	9 Fruits prefer-
7 Garlick	4 Olives	ved with brandy
Q. <i>Condiments.</i>	5 Vinegar and	10 Cayenne Pep.
1 Sugar	Pickles	11 Pimento and
	6 Lemon Juice	other Spices

T A B L E II.

*Of the RELATIVE STIMULATING and SEDA-
TIVE QUALITIES of FOODS and DRINKS.*

CLASS I. STIMULANTS, ANIMAL.

ORD. I. MILKS, E. from No. 1 and 9, 11.

ORD. II. Genus 1. *Young Meats*, D.

Gen. 2. *Fish*, G. 1 to 6.

ORD. III. Gen. 1. *Fish*, G. 7 to 16.

Gen. 2. *Tame Animals*, B.

Gen. 3. *Shell Fish*, F.

ORD. IV. Gen. 1. *Fish*, G. 17 to 24.

Gen. 2. *Wild Animals*, A. and
No. 10, E.

Gen. 3. *Salted Meats*, C.

CLASS

CLASS II. SEDATIVES, VEGETABLE.

H. I. K. L. M. N. O. P. Q.

CLASS III. LIQUID FOODS.

Gen. 1. *Liquid Animal Foods*, Broths & Jellies.Gen. 2. *Liquid Vegetable Nourishment*,

A. From Domestic Grains.

B. From Foreign Vegetables, Tea,
Coffee, &c.

CLASS IV. STIMULANTS, VEGETABLE.

O. Pot-herbs.

P. Condiments.

CLASS V. DRINKS.

ORD. I. *Sedative—Water.*

Gen. 1. Ice

2. Rain

3. River

4. Spring

5. Stagnant

6. Distilled

} Waters.

CLASS

CLASS VI. DRINKS.

ORD. II. *Fermented Drinks.*

- Gen. 1. Barley Wines, Beers and Ales
 2. Honey Wines, or Mead and Metheglin
 3. Fruit Wines, as Cyder and Perry
 4. Other Home-made Wines
 5. Foreign Wines.

ORD. III. *Ardent Wines.*

- Gen. 1. Rum
 2. Brandy
 3. Arrack
 4. Liqueurs and Cordials.



C H A P. IV.

O N T H E

RELATIVE DIGESTIBILITY OF FOODS.

Aliment what—Preparation generally necessary—Cookery a Branch of Chemistry—why Digestibility of Foods not easily ascertained—Digestion a very extensive Operation of the Animal Oeconomy—Perspirability what—Sanctorius's Experiments—Perspiration how connected with Digestion—with Hunger and Thirst—Inferences—Principles and Properties of Animal and Vegetable Food compared—Digestibility of Animal Foods—Arrangement of the Tables—Explanation of them.

PROP. IV. OUR ALIMENTS ARE EITHER VEGETABLE OR ANIMAL, SOLID OR LIQUID, OF DIFFERENT NATURES AND QUALITIES, PREPARED BY VARIOUS ARTS OF COOKERY, AND MIXED WITH DIFFERENT CONDIMENTS, FOR THE PURPOSE OF RENDERING THEM PALATABLE, DIGESTIBLE, AND NUTRITIVE.

§. 14. **B**Y the term *aliment*, we mean whatever is capable of nourishing the body: some drinks are not strictly alimentary

alimentary, yet as they are necessary to promote the preparation of our nourishment, they cannot be omitted in a treatise on dietetic regimen; a place therefore is assigned them in the second table.

Mankind in general, either from personal experience, or from prepossession or prejudice, entertain such different opinions on the relative digestibility of foods, that I do not expect that the arrangement of the first table will be universally approved of, even by medical men: It will however be of some use, at least so far as to make the occasional references more easy and intelligible; as I have marked each section with a different letter, and each article with a different number.

In compliance with the opinion of others, I have made some alteration in the arrangement, and have added some articles which had been omitted: many more might have been added, which are used by different nations; we learn from *Hippocrates*, that the ancient Greeks ate horses, asses, dogs, and foxes; the Romans deemed rats a delicacy; and our neighbours the French eat frogs.

Before I proceed to the explanation of the table, I shall offer a few remarks.

We know of no articles of food in common use, that are not either vegetable or animal, though some of the condiments, as salt, are mineral: foods are rarely used without some preparation.

The art of cookery is a branch of chemistry; and though it be useful for the preparation of our foods, it is certain that the refinements of luxury have rendered it very injurious to the health of man, especially by an improper use of condiments.*

Condiment means a preserve, or whatever has a power of preventing corruption or putrefaction, but they are chiefly used to give a relish to our foods.

It may be admitted as a general truth, that, such is the sympathy between the palate and stomach, that what is ungrateful to the former is not very digestible. Some observations on the nature of digestion and nutrition have been given, Essay I. §. 71, p. 159. §. 74, p. 169, and §. 83, p. 181, to which I

* On conversing with my ingenious friend Dr. *Saunders*, he informed me that he had some intention to publish an Essay on the present modes of cookery, wherein he should point out the impropriety of certain mixtures and ingredients in our modern dishes; and from the Doctor's profound knowledge of chemistry, I am persuaded no man is better qualified for the task.

refer the reader, as a careful perusal of them will render the subsequent part of this Essay more intelligible.

The stomach does not produce the chief changes on the aliment, though its effects on the stomach are chiefly attended to; because on account of the sensibility of its nerves, it is, as it were, the centinel of the body, and warns us by its disagreeable feelings, whenever its nerves are affected by the improper quantity or quality of our foods and drinks: and it is peculiarly incumbent on the invalid to attend to this monitor; because we may be assured that when they are ungrateful to the stomach, not only its digestion, but that of the intestines, must be imperfect. After the chyle enters the blood, it may be truly said to undergo farther digestion by the pressure and agitation of the heart and lungs, and to be gradually subtilized, by passing through arteries, many of which are smaller than the finest hair. By this process, which probably requires some days before it is perfected, the nutritious particles are comminuted into a subtile vapour, fit to pervade or cling to, and unite with, the minutest vessels, and fill up the vacuities left by the
solid

solid particles which have been washed off by the tide of fluid; and which are so minute as to pass off by perspirable vessels, 125000 of which may, it is said, be covered with a grain of sand.

§. 15. There is a term, *perspirability*, which has been used by some authors, which I shall explain here, as I may occasionally make use of it.

Sanctorius, an Italian physician of the last century, made use of a statical chair in which he weighed himself at different times after his meals; that he might know how much he had lost or gained, and what foods were retained longest in the body, or soonest discharged from it by the different excretions; and what the proportion of those excretions was with respect to each other. Hence he inferred, that certain foods were more *perspirable* than others; that is to say, that a greater proportion passed off by perspiration, than by the other excretions. Similar experiments have been made by other physicians, but the principle on which they were made was in some respects fallacious.

Let us suppose, for example, that the sage experimenter, having made a hearty meal of mutton at dinner, a kind of food which *Sanctorius* found, as he believed, to be the most perspirable, and weighed himself eight or ten hours after ; it was impossible to determine how far the mutton was the cause of the increased perspiration.

Or, suppose that one of the statical doctors ate pork one day, and found his perspiration to amount to twenty ounces ; the next day beef, and the perspiration thirty ounces ; and mutton the third, when the perspiration amounted to forty ounces ; it was impossible to determine which of these were most perspirable ; because it is probable that the ultimate preparation of the food must require a process of several days before it can be so assimilated and subtilized, as to fill up the very small vacuities of the abraded solids, (See Essay I. chap. iv. page 181.) and that many more days must elapse, before these very particles are worn out, rubbed off, and discharged by insensible perspiration : so that the day on which the doctor made a meal upon his *perspirable* mutton, it is most likely he was perspiring the remains of a meal he had eaten a month or six weeks before,

But beside the statical balance, *Sanctorius* used his feelings as a test of the relative perspirability of foods; that is, he found that his perspiration was always proportionably greater, when he found himself light, alert, and free from all uneasy sensations, after particular foods; and the reverse after others: This merits explanation.

There is a very strong sympathy between the nerves of the stomach, and those of the skin; and therefore the perspiratory discharge is very much under the influence of the stomach.

When he ate mutton, which was a food peculiarly grateful to the nerves of *his* stomach, his feelings were pleasant, and his perspiration copious; when he ate pork, mushrooms, or melon, he was heavy and oppressed; and found, by the balance, that his perspiration was diminished one half; owing to the ungrateful sensation of the stomach being communicated to the nerves of the skin, by which a spasmodic constriction of the exceedingly minute vessels took place, and a stoppage of the perspirable matter, similar to what happens at the commencement of a fever. (See Essay I. p. 144, 146, &c.)

An

An example taken from disease will illustrate this farther. If you give a hectic patient a few boiled turnips for dinner, no oppression will follow ; if he eats a dinner of mutton, his stomach will be oppressed, his fever increased, and his insensible perspiration will undoubtedly be diminished. How does this happen? From the stimulus of the animal food imparted through the nerves of the stomach to the nerves of the heart and skin, and exciting a temporary fever. What is the effect of this meal in all the subsequent stages of digestion? As all the organs are weak, and the mutton is more difficult of digestion than the turnips, the chyle prepared from it will be crude ; and as a very small portion of it, if any, can be converted into nourishment, or will be fit to pass the minute pores of the skin, it will be morbidly determined either on the kidneys or intestines, and pass off in the form of half-digested chyle.

Let us suppose again that a debilitated gouty patient, whose stomach is cold and weak, eats boiled tripe one day, and roasted mutton the next. The tripe will not sit so easily as the mutton, because it does not stimulate

stimulate the nerves of the stomach so gratefully, and the perspiration will not only be much lessened, but it will be digested with more difficulty, and neither afford so much nutrition or perspirable matter.

Hence we may comprehend the intimate connection between perspiration and digestion.

There is also a connexion between digestion, perspiration, hunger, and thirst.

When foods or drinks are either easy of digestion, or contain but few nutritive particles, they are sooner converted into nourishment, and reduced into the fine perspirable vapour; and the returns of hunger are more frequent. Thirst, on the other hand, is only excited, either to dilute the alimentary particles in the first stages of digestion, or to carry off the useless and acrid particles of the solids and fluids through the bowels, kidneys, or skin.

Hunger and thirst, therefore, are not excited merely to fill the stomach when empty, nor to supply the waste of two or three pounds of fluids, which have been carried off by the excretions; but, by a necessary law of the system, to force us to supply the means

of

of preparing a mild, bland chyle, to correct that alcalescency and acrimony of the humours, which they are perpetually contracting from heat, agitation, and high assimilation to the animal nature, and which always partakes of the nature of putrefaction; and hence it is that animals which have been starved to death, were not destroyed merely because the waste of the solids was not supplied; but chiefly by a putrefactive acrimony of the humours; and hence it is that life is prolonged in those cases, if they are allowed a sufficient quantity of water *only*, to retard the putrescent tendency.

From what has been said we may draw the following inferences:

1st. That perspiration is a most important excretion; because if the aliments are not refined by the digestive powers into that subtile vapour, digestion must be imperfect: Hence the sense of *lightness* when the perspiration is copious, which shews that not only digestion, but all the other functions, are performed with ease and steadiness. (See Essay I. page 185, &c.)

2^{dly}. That those foods and drinks which set easiest on the stomach, must, whatever be their

their quality, be the properest for us ; and that though some foods may be *absolutely* more digestible than others ; yet their *relative* digestibility must depend upon their impression on the digestive organs.

It is a just and important observation of *Sanctorius*, that robust persons discharge the remains of their nutriment chiefly by perspiration ; the weak chiefly by the kidneys or bowels : but the most deplorable state of weakness is, when it passes off in the form of indigested chyle. This remark suggests a variety of useful hints in the management of invalids, not only with respect to diet, but clothing, &c.

3dly. That the division of foods into stimulating and sedative, established by the second table, is much more important than the first ; because these qualities, in excess, contribute very much to impair health ; and on the other hand, by a due regulation of them, as will be seen hereafter, regimen of diet becomes a most useful, and even necessary auxiliary to medicine in the cure of diseases.

4thly. It ought, however, to be ever held in mind, that it is by excess in quantity, chiefly,

chiefly, that we lay the foundation of manifold diseases, especially of those foods and drinks which are possessed of highly stimulating qualities; and that a regular practice of temperance, in the use of the nonnaturals, is the only infallible nostrum for the prevention of disease.

§. 16. I have, in this edition, added a second table, which, so far as regards the general arrangement, is not very different from the first; though the titles, and in some respects, the modes of explanation are changed, as more conformable to the physiological and pathological remarks of the first Essay, to which I make frequent references, as tending to render this Essay on Regimen more intelligible.

I have however left the first table nearly as in the former edition, that my readers might have both arrangements before them, the first being more intelligible, the second more scientific. I had another reason for adding the second table, which was, that several of the articles, especially the drinks, could not so well be arranged under the head of digestibility, which implies nourishment, of
which

which they contain but a small proportion; though they have other qualities which merit distinction: I have transferred my remarks from the first to the second table, not omitting however such remarks on the relative digestibility as might be useful.

In each section of the first table, the most digestible is placed at the top, the least so at the bottom: Thus in §. A. *venison* is the easiest, and *goose* the most difficult of digestion, of that section only; for little useful information could be gained by carrying the comparison on between section and section. Though the arrangement in the table is tolerably exact, yet we often meet with such constitutional peculiarities, owing probably to the state of the nerves of the stomach, as to render some foods, which in their nature are not very digestible, very much so to particular persons, and the reverse; and custom seems to have a considerable share in these peculiarities, as indeed it has in all the operations of the animal machine; and thereby creates many exceptions to general rules.

§. 17. If we consider the general properties of animal foods, we shall find them
to

to be alcalescent in various degrees, and therefore opposite to the acedcent tendency of vegetable foods; and as the salt of the animal foods is partly volatile, and resembles that of crude sal ammoniac, so the essential salt of the nutritive vegetables is chiefly sugar. Animal foods have a strong disposition to putrefaction; whilst the tendency thereto in vegetable foods is very slow, being checked by the acid and sugar, which are very opposite to putrefaction. They both have an oily matter; and, what is singular, that of animals is found to contain a considerable quantity of acid, and is the only animal substance that does so. They both contain a gelatinous matter, which in animals is called the coagulable lymph; and in both contributes to form the nutritious particles: some vegetables also contain a gluey matter called starch, to which there is no principle in animals precisely similar.

There are some other circumstances by which they are distinguished from each other. It is probable that the air contained in animal foods is chiefly inflammable; that of vegetables is probably that species of acid now termed fixible air.

Animal

Animal foods, some very hard and tough parts excepted, seem to dissolve entirely in the stomach; whereas several of the vegetables seem not to be soluble, but only give out their juices by a kind of infusion.

Animal foods are stimulant; that is, they, with a very few exceptions, by their action on the nerves of the stomach, excite a temporary fever, called the fever of digestion; whereas vegetable aliment, whilst in the stomach, is rather disposed to check than to excite this fever. This fever of digestion, which, though originating in the stomach, is extended to every part of the body, is not, when moderate, injurious to the body, whilst in health; but affords a principal ground for indications of regimen in particular temperaments, and in certain diseases; and, as will appear hereafter, is the grand test by which we may determine whether stimulating or sedative diet is best adapted to the nature of the habit or disease; for if morbid stimulus be excessive, sedative foods are indicated, and the contrary.

The same distinction may be made between the stimulating and sedative drinks.

§. 18. As animal foods hold the first place in the tables, it may be proper to make some general observations upon them, especially respecting their digestibility, to avoid repetitions, when I come to consider them individually; and the reader is requested to observe, that where they are not contradicted by exceptions, they are supposed to be valid.

1st. The larger the animal, the stronger and more alcalescent the food; but not always therefore the less digestible; because such foods are generally the most easily dissolved by the juices of the stomach, which (as has been seen, Essay I. page 164) are of an alkaline nature.

2^{dly}. Some parts of animals are more tender than others, and therefore more easily dissolved by the digestive powers of the stomach; as the head, tongue, udder, and those muscular parts which lie nearest the bones: others are deemed more difficult of dissolution; as the external muscles, their tendons, the stomach and bowels, commonly called *tripe*, the ligaments which unite the joints, and the cartilages or gristles: These last, however, are the most proper foods for per-

sons of strong stomachs and quick digestion, not only because they afford a considerable portion of good nourishment, but because strong stomachs digest so quickly, that it would be very hazardous to such persons who make blood very fast, to throw a large quantity of rich nourishment into the circulation at once; as by the great stimulus of a rich and dense blood, very dangerous fevers might be produced in constitutions so much disposed to high and inflammatory fevers: Hence it is that the ploughman is more properly, and more safely, fed on rusty bacon, than on the more digestible foods, provided it be duly qualified by vegetables.

3dly. The flesh of the ox, and other four-footed animals, is heavier than that of birds; but, if more alcalescent, it will be more digestible.

4thly. The meat of wild animals, though harder and more dry than that of the tame animals, is more digestible; because more disposed to alcalescency and putrefaction; and therefore acts more gratefully on the nerves of the stomach, whose power in promoting digestion is very great.

5thly. The

5^{thly}. The animal food which affords most nourishment is not always the most easy of digestion: The reason of this is, that the mucilaginous parts, which are the most nutritive, do not, in general, seem to be grateful to the nerves of the stomach; and hence it is that the flesh of young animals, and jellies extracted from the flesh of old animals, are often very disagreeable and oppressive to the stomach. Hence it is that physicians make a proper distinction between the absolute and relative nourishment of foods. The *absolute* is, when in a pound of one kind of food there are more nourishing particles than in the same quantity of another. The *relative* is that kind or quality which is most digestible by the stomach. Thus a pound of jelly contains more nutriment than a pound of beef; but if the latter be more easily prepared by the stomach, and pass through the other digestions in a shorter space of time, it is relatively, though not positively, more nutritive; a circumstance which, though with respect to strong stomachs is of very little consequence, is nevertheless, as we shall see hereafter, of the utmost importance with regard to invalids.

It might be supposed that such foods as are, as it were, half assimilated or converted into nourishment, must be most digestible and nutritive, as all liquid foods; but this is not always the case; for more depends on their being grateful or offensive to the nerves of the palate and stomach, than to any other circumstance;—a distinction of great importance, but very little attended to.

6thly. Fish, which contain much of this mucilaginous matter, are not (though there are some exceptions) so digestible as flesh: of the fish, those of rivers are, by some, preferred to pond, lake, or sea-fish.

7thly. Of the animals which are termed carnivorous, or those which prey on other animals, as the lion, tiger, &c. and those which live on insects or fish, few are used as food; because they are supposed to be too alcalescent and putrescent: yet it is asserted that the flesh of the young lion is as delicate and palatable as that of lamb.

8thly. Those animals which feed themselves, and are therefore confined to their natural food, are justly supposed to afford more wholesome nourishment than those that are stall-fed or crammed; because, being de-
prived

prived of their natural exercise, their juices cannot be so well assimilated.

9thly. Those animals that feed on plants which have active medical principles, do not afford such bland and natural nourishment as those which do not: Thus some goats feed on scammony, and sheep on thyme and wormwood. The reason of this objection is, that all our foods ought to be as remote as possible from medical qualities: on this is grounded the objection to condiments and strong drinks.

10thly. Certain foods are said to be in or out of season. This opinion is often regulated by fashion: but the proper time for using particular animal foods, is when their natural nourishment is in greatest plenty.

11thly. Animal foods that are the least perspirable afford the most permanent nourishment, or, as the vulgar term it, *stick to the ribs*; and produce a rich, dense, elastic blood. Hence it is that our labouring poor are less vigorous, and therefore unable to do so much work, since the price of provisions has so much exceeded that of labour, as to deprive them of a proper quantity of animal food.

§. 19. Having made these general remarks, it may be proper to offer a few more remarks on the Second Table.

It consists of six classes, divided into stimulants and sedatives; and as the articles of Table I. even of the same column, may be different in degree either of stimulating or sedative quality, I have selected them according to those degrees, and placed them under different orders and genera: Thus under Order II. Gen. II. I have placed only six of the fishes, G. Table I. because, conceiving that those which follow are of a nature more highly stimulating, I have placed them under other genera.

N. B. The reader will observe, that as I have placed the most digestible at the top of each division in Table I. so I have placed the least stimulating first in Table II.

With respect to the vegetables, the difference between the sedative qualities of what may be deemed the nutritive vegetables is so small, that it would be improper to perplex the reader with minute distinctions. Class IV. or the stimulating vegetables, are not, in truth, nutritive; but merely accidental additions, as sauces or condiments.

Though

Though this arrangement is more scientific, and apparently more complicated, than that in the first edition; yet so far as regards regimen of diet under diseases, which is the most essential, it will be found, on a careful perusal, to be much more useful.

To render the references from the 2d to the 1st Table more easy; every section of the 1st Table is numbered 1, 2, 3, &c. which are referred to from the 2d Table by corresponding numbers.

To avoid prolixity, I have made a few remarks only on particular articles; and with respect to such as are not mentioned, it is to be supposed that there is nothing peculiar in their nature.

The reader will remember, that all of the same Class, Order, and Genus, must be similar in kind, though not in degree.

§. 20. The reader may recollect, that the morbid affections of the animal, vital, and natural functions have a very intimate connection, either with excessive, irregular, or defective sensibility; or with various degrees of excess, deficiency and irregularity of the circulating, secretory, and excretory systems.

tems. In conformity, therefore, to this idea, the Classes and Orders of the second Table have been divided into stimulants and sedatives. This division, however, relates more immediately to morbid affections of the circulation, secretion, and excretion, than to those of sensation; one Class only excepted, viz. the stimulating drinks, and some of the condiments; and their operation seems to depend on the grateful and *sudden* impression they make on the nervous system in general, through the nerves of the stomach; and, in this point of view, they ought rather to be deemed useful nervine medicines, than articles of diet. That this distinction may be better understood, the reader is referred to Essay I.

C H A P. V.

ANIMAL STIMULANTS.

Animal Stimulants—divided into one Class, Orders, and Genera—Properties of each Genus—Qualities of certain Articles of each Genus explained.

C L A S S I.

ORDER I. TABLE I. E. No. I to II.

§. 21. **M**ILK, being immediately strained off from the blood, soon after the new chyle enters it, approaches nearer to the nature of chyle than any other humours of the body, and very much resembles the emulsions artificially made from the almond, and other oily nuts. Hence it is of consequence that the diet of nurses should be so regulated that there be a due proportion of vegetables mixed with their animal food: liquid foods increase the quantity of milk. Nurses ought not to fast long; otherwise
their

their milk will be too alcalescent; and I have known an infant to refuse the breast with disgust, when the mother had fasted ten or twelve hours; because, in this case, the milk, instead of being secreted from the chyle, is secreted from the blood; and therefore partakes of that disagreeable pungency and flavour, of which all the other animal secretions partake in different degrees.

As an article of food, new milk is preferable to that which has stood some time; hence infant animals receive it immediately from the mother.

Rennet whey is placed at the head of the column, because it is certainly the most sedative and digestible; and being acescent, much fitter as a food for weak stomachs, especially in hectic fevers; as it contains less of the gross matter, and sufficient of the sugar to afford nourishment; and from experience I aver, that either this, or butter-milk, are much preferable even to asses milk, as an article of food for invalids: for none of the milks are so easily assimilated by the stomach as the wheys, broths, or even some solid animal foods; though milk may often be preferable to the latter, because it is rather sedative than
stimulating;

stimulating; and therefore a fit accompaniment for vegetable diet. Goat's whey has been deemed preferable to the others; but this perhaps depends rather on the salubrity of the air in mountainous countries, than on the superior goodness of the pasture. Of the milks, some have less curd than others; and these, as foods for invalids, are to be preferred, in the order of the catalogue: No. 7 being the least digestible. Some think that milk boiled and sweetened with sugar is more digestible than the raw: milk always separates into curd and whey in the stomach: of all the animal substances it is most disposed to become sour. Milk and fish do not agree when combined in the same meal.

Cream is a combination of the oil, curd, and sugar of milk; or an imperfect butter.

Butter is an imperfect animal oil. It has been a kind of fashion to reprobate butter as a very improper food, very slow of digestion, and apt to become rancid in the stomach; and farther it is alledged, that it generates gross and foul humours. I shall consider how far some of these charges are well grounded in another chapter; and shall only remark here, that it strongly resists acescent fermentation;

fermentation; is, by the consent of almost all nations, used with vegetables and fish; and therefore must have some qualities favourable to the digestion of particular foods.

New Cheese is certainly a very indigestible food, as it is nothing more than hard curd, which the powers of the stomach can scarcely dissolve.

ORD. II. Gen. I. *Young Meats*. Table I. D.

§. 22. These are more stimulating than the milks; but, from experiments, there is reason to believe that they are more difficult of digestion than any other meats, because they are more slowly dissolved in the stomach; and it may be admitted as a pretty general truth, that foods being less digestible does not depend so much on the firmness of their texture, as on their viscid, mucilaginous or glutinous nature. As they contain more mucilaginous parts, and less animal salt, they have little flavour, and a very small degree of alcalescence; and therefore do not act so gratefully on the nerves of the stomach, as those which are more stimulating; and there are many persons whose stomachs are oppressed by them.

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As they contain a great proportion of nourishment, with little stimulus; they are proper for young persons of good appetites and quick digestion.

Jellies have very improperly been deemed of easy digestion. My ingenious friend Dr. *Stack* told me, he had seen very alarming symptoms from too liberal a use of jellies.

Brawn. A considerable part of this food being insipid and horny, it is not very soluble by the juices of the stomach.

Eggs are extremely nutritive, but difficult of digestion; the white more so than the yolk: the white resembles the curd of milk, and that principle of the blood, called the coagulable lymph or serum, by which our bodies are supposed to be nourished.

ORD. II. Gen. II. T. I. *Scaly Fish*, No. 1 to 6.

§. 23. A very learned and ingenious physician* has assigned to fish a middle rank between animals and vegetables. Compared to some of the meats of old animals, I think the observation is just; but may not hold universally.

* Dr. *Falconer*, in his *Treatise on the Influence of Climates*; a work of great erudition, and which contains much information.

The six species mentioned here, seem to be more stimulating, and more digestible, than the younger meats.

Monfieur *Goffe* found boiled perch very digestible; but he does not seem to have made many experiments with fish. *Cornaro* always found fish oppressive to his stomach. The scaly fish have been supposed to be more digestible than the others.

ORD. III. Gen. II. Table 1, B. *Tame Animals.*

§. 24. These are more alcalescent and stimulating than the preceding genera; and being more grateful to the nerves of the stomach, are more digestible.

Sanctorius deemed mutton a more perspirable food than any other; but our beef, which is more perfect than the Italian, is perhaps equally perspirable. There is, however, something in mutton so congenial to the nerves of the stomach, as rarely to cloy the appetite by repeated use.

ORD. III. Gen. III. Table 1. F. *Shell Fish.*

§. 25. These have a considerable degree of alcalescency and stimulus. *Sanctorius*, and his commentator *Keil*, deemed the *oyster* to be

be very little perspirable, and therefore not very digestible; on the other hand it is by many thought to be very much so; and, some years ago, became a fashionable article of food for invalids. There are several other shell-fish beside those in the list; but they are nearly similar in their nature. The *muscle* is often poisonous, owing probably to its feeding on copper banks.

ORD. IV. Gen. I. *Fish*. Tab. 1. G. No. 17 to 24.

§. 26. The *Salmon*, *Eel*, and *Turtle*, are, in the common phrase, very rich food; and therefore are considerably stimulating and alkaliescent. There are four species of the turtle; but the green turtle is preferred. It is by some deemed very digestible; but its glutinous parts, which are deemed the most delicate, certainly are not so. The *Sturgeon* is placed very low in the scale of digestibility; but a gentleman who resided long in Virginia, where I once ate of it fresh, tells me that it is there deemed very easy of digestion, is often dressed like veal, and can scarcely be distinguished from it: But veal is certainly not so digestible as beef or mutton.

ORD. IV.

ORD. IV. Gen. I. *Wild Animals.* Tab. 1. A.

§. 27. There is a very considerable difference in the degree of stimulus in the different articles of this genus; but I was unwilling to enter into minute subdivisions. I have placed *pork*, which is the meat of a tame animal, in this division; and, in my own opinion, have placed it too low in the scale of digestibility; but I have done this in deference to common prejudice. It is not easy to account why the Egyptians and Jews did not eat this animal; indeed it was forbid by the legislator of the latter, probably as a gross foul food that might exasperate the leprosy, which prevailed among that people. It was highly esteemed by the Greeks and Romans; and it seems to be a very wholesome and digestible food.

The *Wild Hog* is, I know from experience, more alcalescent and digestible than the tame.

The *Duck* and *Goose*, though the most alcalescent and stimulating of the genus, are not the most digestible; owing probably to their very high flavour, to which our stomachs are become less habituated, as luxury has driven them from fashionable tables, in
favour

favour of younger animals of the same species. This predilection for insipid premature meats, does not seem to be well founded; for nature certainly destined that they should attain their full growth, before they are used as food; their juices in this state being more nutritive and invigorating. The Solan goose is said to be more digestible than the tame, but the only time I ever ate of it, I had no reason to boast of its digestibility.

With respect to the wild animals commonly called *Game*, the alcalescency of their flesh depends either on their humours being highly animalized by exercise, as the *stag*, *bare*, and several species of *wild-fowl*; or the putrescent nature of their food, as insects and worms, on which several of the bird kind feed: hence they become sooner putrid after they are killed, owing partly to their being killed in their blood.

I am surprised that epicures have not fallen on the expedient of killing sheep partly in their blood; as the mutton might, by this means, be very little inferior to *venison*, either in tenderness or flavour. But the butchers, not contented with bleeding them at their death, are, I am told, in the habit of

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bleeding

bleeding them some hours before they are slaughtered, from a vein or artery near the internal canthus of the eye.

The sordid practice of inflating the cellular membrane, by a blow-pipe, is exceedingly disgusting.

Meats are certainly rendered more digestible by having a slight tendency to be putrid; hence it is that we keep our meats for some days till they become tender.

The French do not relish animal food, unless it partake strongly of the *fumette*; but as they eat a considerable proportion of bread; that, and their small wines, correct the putrescency.

A late eminent physician in London had such a relish for putrid meats, as to offend the whole neighbourhood, whenever he could gratify himself with a *savoury* morsel of this kind.

The late Sir EDWARD BARRY prevailed on a man to live eight days on partridges without vegetables; but was obliged to desist, from the appearance of strong symptoms of putrefaction. The result of this experiment shews how necessary it is to mix vegetables with our animal foods.

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If putrid foods are in any instance beneficial, it must be in those cases where the stomach is either loaded with insipid phlegm, or disposed to generate a very sharp acid.

Some of the fishes might be placed under this head, rather than the preceding, as they seem to be very alcalescent, with a rancid tendency; though, from their glutinous quality, they are not easily subdued by the digestive powers: Mons^r. Goffe found that the solution of *skate* was very tardy in his stomach, and other persons have found the *salmon* and *sturgeon* to be equally so; yet Dr. Cadogan recommends skate, cod, and turbot, as articles of food for valetudinarians.

Old Cheese is placed here as being highly alcalescent; and therefore a good condiment after a dinner of insipid meats.

I have placed *marrow*, *oil*, and *suet*, at the bottom of column A. Table I. not so much on account of their alcalescent nature, as the supposed difficulty of their solution in the stomach; and their impression on its nerves, by which the sensation of hunger is soon blunted. It has been alledged, that vegetable oil, as oil of olives, is more diges-

tible than butter or animal oils; I doubt the fact. I shall take other opportunities of giving my opinion concerning the oily foods.

ORD. IV. Gen. 3. *Salted Meats.* Tab. 1. C.

§. 28. I have placed the salted meats and salted fish here; because, though the salt, with which they are preserved, lessens their alcalescency; yet it increases their stimulus in the stomach, and creates heat, thirst, and temporary fever. From my own experience, and that of others, I think they are more digestible, but less nutritive, than the unsalted meats; provided they have not acquired any degree of rancidity, which they are very apt to do, especially bacon and fish.

Their digestibility seems to depend on two circumstances: the animal mucus, which is the least digestible, being partly dissolved by the salt, and thereby rendered more miscible with the digestive humours; and the grateful stimulus the sea-salt imparts to the nerves of the stomach. Mons^r. *Gosse* found, on repeated trials, that lean salted beef was easy of digestion, but fried bacon and eggs became very much otherwise: the eggs became highly alkaline in the stomach.

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They have been deemed unwholesome, and it is alledged they produce the sea-scurvy; which may in some degree be the case, when, by long keeping, the putrescency of the meat prevails over the preserving power of the salt, and part of the salt becomes ammoniacal; but this can be no objection to the occasional and moderate use of them, with fresh meats, and a due proportion of vegetables.

I shall close these remarks on this class with a general observation. From the various degrees of stimulating quality with which animal foods are endued, and the occasional remarks made §. 17, p. 82, &c. not only on their positive effects, but their relative, when compared with vegetables, it is manifest that there are no circumstances under which a person in health ought to subsist solely on animal foods; because, by exciting temporary fever after every meal, they urge the springs of life into constant, preternatural, and weakening exertions; and therefore that they ought to be qualified by a proportion of sedative vegetables, according as the habit of body, or mode of life, may require; and that health is much more fre-

quently impaired by excess, than by defect, of animal food.

Those medical travellers, who have visited countries in which the inhabitants live almost entirely on animal foods, either flesh or fish, have found that their predominant diseases were itch, scurvy, leprosy, malignant ulcers, and fevers;—a proof how necessary a mixture of vegetable food is to the preservation of health.



C H A P. VI.

VEGETABLE FOODS.

SEDATIVES VEGETABLE.

Tab. I. H. I. K. L. M. N.

Vegetable Foods relatively sedative—their component Principles—most of the nutritive Vegetables we use Natives of Asia—Remarks on the Genera.

THE sensible qualities of vegetables afford some indications of their nutritious powers; thus, the fruits consist of sugar and acid united in various proportions, so as to form a kind of natural soap. In some of the vegetable plants and roots, the sugar is much more predominant than the acid, and this in proportion to their advance toward the state of maturity or ripeness; when the acid being more intimately mixed with the sugar and oily part of the plant, the glutinous and starchy parts are gradually thickened into a kind of farinaceous or mealy substance, which prevails more or less in all
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the alimentary vegetables, as they approach nearer to their state of maturity. This is a short sketch of the composition of vegetables.

Though the *acorn* is said to have been the original food of man before agriculture was practised; yet some have supposed that the *chestnut*, not the acorn, was the first vegetable food of man. It is a curious circumstance, that, from the best accounts tradition has handed down to us, *Europe* has been indebted to *Asia* for all its alimentary vegetables, its grains, its fruits, and many of its esculent vegetables and roots: the grains are certainly the chief vegetable nourishment from which man derives bread, the staff of life.

All vegetables fit for nourishment ought to be mild, bland, and agreeable to the taste; and though we admit some articles of an acrid nature, as *celery*, and some others, they are scarcely to be deemed foods. Vegetables, though many of them are very soluble in the stomach, are not so easily assimilated to our nature as animal food.

Several of the vegetables, as fruits, grains, and esculents, sometimes extricate air very rapidly in the stomach, by which it swells enormously; and some persons have been suddenly

suddenly destroyed by it: hence it is that those who have weak stomachs are often incommoded by vegetables.

CLASS II. §. 29. I have already observed, that all of this class are relatively sedative, compared with animal foods; for though, by their bulk, they are so far stimulating, as to distend the cavities of the stomach and bowels, and thereby excite them to contraction; yet, with respect to their qualities, as acescent and cooling, they tend to mitigate the motions of the different organs.

Thus a vegetable diet will alleviate the symptoms of an inflammatory fever, by lessening the alcalescent pungency of the blood, from the mixture of an acescent vegetable chyle; whereas all the symptoms would be increased by a diet of animal food, not only by adding, as it were, fuel to fire, but by throwing too large a quantity of rich nourishment into the circulation, and oppressing the vital secretory and excretory organs, which are already overcharged.

Though all the vegetables are not, strictly speaking, sedative; and some of them are somewhat alcalescent, as cabbage, cresses, &c.

yet

yet they are so little stimulant as not to require a distinct consideration; and when boiled, are disposed to be acefcant.

TABLE I. H. §. 30. Though the juices of all these fruits, and the pulp of many of them, are easily soluble in the stomach, and therefore very digestible; yet their seeds, cores, and rinds, or hulks, are very much otherwise; and dangerous, and even fatal effects, have been often produced by swallowing them in any considerable quantity.

The fruits, in their unripe state, are what is called acerb, or harshly four; owing to the predominance of the acid over the sugar and oil; which in this state are in a very small proportion to the acid. Hence unripe fruits produce very disagreeable feelings in the stomach and bowels; especially when they are weak. *Cornaro* could not use fruits, without being disturbed by them.

The gooseberry, currant, cherry, and plumb, are sometimes very flatulent, and create severe fits of the colic, hardness and swelling of the belly, or diarrhoea. All these fruits sit more easily on the stomach, after having their air forced out by fire; either by roasting, or
made

made into pies or preserves: vegetables in general contain much more air than animal foods. It has been a question whether fruits ought to be eaten before or after dinner. With respect to persons in health, it is not very material, any otherwise than that persons who are young and full of blood may be so far benefited by a moderate use of fruit an hour or two before dinner, as it may abate a keen appetite for the principal meal. Persons who are subject to little irregular fevers ought to eat fruit in the morning and evening; and I have known good effects from this practice. Many years ago, I knew a respectable old gentleman in one of our colonies, who told me that Dr. *Cheyne* recommended the use of fruit in this way on account of an erysipelatous humour, which was sometimes suspected to have fallen on the stomach and bowels. He for many years ate at least twelve oranges every day; and never had a return of his complaint. Such persons as are subject to indigestion and acidity of the stomach, ought to eat their fruit rather after than before dinner.

Iced fruits have sometimes been beneficial to hectic patients, from their cooling sedative

tive qualities, but they are rather too cold for the stomachs of other invalids.

TABLE I. I. §. 31. The dried fruits are less acescent and flatulent, but more nutritive, than the green, but not so soluble in the stomach; these may be considered as in a great degree candied, or preserved by their own sugar, of which many of them contain a very large proportion: some of them are preserved by an addition of sugar.

Mons^r. G. found fruits boiled with sugar to be very easy of digestion. There is another species of preserve which is not so; as the rinds of the bitter orange made into marmalade, and the candied citron and orange-peel; and this defect of digestibility proceeds from their bitter quality, which retards digestion. The practice, however, of eating marmalade at breakfast, formerly frequent in Scotland, might tend to qualify the enervating effects of tea; nor are eggs, for another reason, an improper addition to this *maigre* meal.

When fruits are preserved with brandy, they are to be considered merely as dry drams; and are therefore placed under Class 6.

TABLE

TABLE I. K. §. 32. These are commonly called the *Esculent* plants and roots, being such vegetables as are brought to our tables to add bulk to our dinner meal, together with bread; and to qualify our animal food, by lessening its alcalescency and stimulus.

Some of them, as those of the cabbage kind, are not so digestible as might have been expected from their alcalescency. There is something in the effects of the *asparagus* that seems to indicate a very active and even virulent nature; though it is very digestible, and fits easily on the stomach, whilst the plant is young. The *artichoke* is a very bland and good nourishment.

The *potatoe* partakes of the nature of the grains, and is fermentible into bread. It is a very wholesome and good nutriment, and very seldom disagrees with weak stomachs.

The *pease* and *beans*, when young, are to be deemed esculents, as they are much less flatulent, and more digestible, than when dried.

It is evident, that man was intended by his frame, to use a mixture of vegetables; and we know that a want of fresh vegetables is one of the chief causes of scurvy in armies and fleets.

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There is another reason why vegetables ought to make a part of our meals. I remarked in Essay I. that as all the functions of our bodies are performed in consequence of the action of their natural stimuli, one circumstance essentially necessary is, that their bulk be such as moderately to stretch or distend the cavities; otherwise they cannot re-act upon their contents. This is the case with the stomach and bowels, which if they are not moderately filled, digestion does not go on well. But it is necessary that a great part of our foods should be solid, not only that we may be under a necessity of chewing them, to press out a considerable quantity of saliva, but that the pressure of this solid food on the secretory vessels of the stomach, may stimulate them to discharge a larger proportion of the gastric and other humours in the stomach and intestines.

It is supposed that a pound of bread, well chewed, carries with it into the stomach nearly the same quantity of saliva; and through the lacteals above two pounds more, by an addition of the other digestive humours. Hence the great advantage of complete mastication: liquid foods are not there-
fore

fore so much more digestible than solid foods, as is generally imagined; unless when the powers of the stomach are very weak.

With respect to the articles of this genus, it may in general be remarked, that though none of them are acescent, but most of them are rather slightly alcalescent, and the carrot and parsnip have a considerable proportion of sugar, yet they have rather a tendency to become acid in the stomach; though, in healthy persons, the gastric juice and bile correct that tendency, and perhaps the butter which is used with them. I have arranged them according to what I conceive to be their degrees of digestibility; the most digestible at the top of the column. Dr. *Stevens* found the parsnip to be totally undigested in the stomach and bowels of the man upon whom he made his experiments; whereas Mons^r. *Goffe* found his stomach digested them readily.

TABLE I. L. §. 31. These grains, and the flour prepared from some of them, are less acescent than the former, and more so than the next; they however are much more glutinous and nutritive than either, and therefore

fore to render some of them more soluble in the stomach, they have their tenacity broken by fermentation. Their nutritive quality depends on a considerable proportion of sugar blended with a latent acid, an oil, a starch, and a mucilage; and it is the sugar that chiefly produces the fermentation by which bread is made: the sweet taste is more predominant when the grains are green.

The part of vegetables which I call the starch, has a strong acid tendency; whereas the mucilage approaches nearer to an animal nature, and is putrescent; but the starch being predominant, the acid disposition prevails. The grains, when reduced into fine flour, still retaining the acid tendency, will even become sour, if moistened with water, without the addition of fermenting leaven. This leaven is of two kinds; 1st. That which is obtained by a bit of sour leaven, which ferments more slowly, and gives the dough and bread a sour taste; and this is the bread chiefly used on the continent of Europe. 2^{dly}. The yeast which we use in this country, to which the hop in our beer gives a bitterish taste; and hence foreigners, used to sour leaven, complain of our bread being bitter.

There are several kinds of grain used in the form of bread in other countries, which even the parochial poor of this would reject with disdain; as those of barley, oatmeal, pease, and rye. It is not yet determined what species of bread is most digestible, though I think brown more so than fine bread.

To persons whose digestion is good, the choice is not of great consequence. The bread made from the finest wheaten flour is suspected to have alum mixed with it; which, if it does not make it unwholesome, disposes it to become strongly acid in the stomach.

Mons^r. *Goffe* found that bread the second day after it was baked, was much more easy of digestion than the new; and crust more than the crumb.

Salt renders bread more digestible; therefore he found the salted bread of Geneva preferable to that of Paris, which is made without salt. Bread made of rye and barley, he found to be not so digestible as that made of wheat flour.

Unfermented bread, as biscuit, &c. is not much used, excepting at sea; it has not yet been determined whether it is more or less

digestible than the fermented; though I am inclined to think it is more so.

An absurd opinion has been entertained that oatmeal is heating, and produces itch; but nothing can be farther from truth than the allegation. Oats are not so nourishing as wheat, but more digestible and sedative.

Pastry, puddings, and pies, prepared from different kinds of grain, are more or less nutritive, according to the proportion of butter, suet, eggs, and sugar, they contain. These additions seem to lessen the glutinous quality of the flour, and render it more easy of digestion. Many of the ordinary puddings which come to our tables, are easy of digestion; and even our cakes and pastry, if the butter be good, the quantity not too great, and the oven not over-heated, are not so indigestible as is commonly imagined. Pastry became intolerably acid on M. Goffe's stomach.

TABLE I. N.

§. 32. All the *Nuts*, which are similar in their nature to the grains, seem to be very difficult of digestion, as they oppress the stomach some hours after they are used. When made into puddings or emulsions, their tenacity is in some measure broken by sugar.

§. 33. The *Salads* are rather to be considered as articles of luxury than of aliment. *Monf. Goffe* found that such as were the most bitter, were the most digestible; that all of them were more digestible boiled than raw; and that vinegar retarded their digestion. *Lettuce* is supposed, by some, to dispose to sleep, and may therefore make an inoffensive article of supper for some invalids. *Cucumbers* are very cold, and difficult of digestion. It is remarkable, that almost all nations have concurred in joining oil and vinegar to this kind of food; probably from experience of their checking its disposition to ferment and become flatulent. The fungous vegetables, the *Truffle* and *Morell*, are articles of luxury, whose properties, as well as those of the *Mushroom*, seem to be considerably alcalescent.

I omitted to remark in its proper place, that a German chemist, *Mr. Scheele*, has discovered that the fruits seem to contain three kinds of acids; the apple acid, the acid of lemons, and the acid of sugar or wood sorrel. The acid of apples seems to be the most general of the acids among the fruits; and, what is singular, it is the chief acid of

P 2
milk,

milk, joined with a smaller proportion of acid which seems to belong peculiarly to the milk. He found blood and eggs contained two acids, that of apples and of sugar. The air in animal substances seems to be chiefly inflammable, and different from that of vegetables.

Vegetable food is not so nourishing or invigorating as animal food; and, under a regimen of this kind, the vital powers and circulation are more languid, and the blood and secreted humours less alcalescent and stimulating; therefore such persons as from necessity live on vegetables alone, are subject to flatulent colics, have a pale bloated aspect, and a disposition to dropfy.

CLASS III. LIQUID FOODS

May be said to be more than half digested, the nutritive parts being extracted from the grosser by boiling.

Gen. I. *Liquid Animal Foods.*

§. 34. These are more or less alcalescent and stimulating, according to the animals from which they are prepared, and the degree of boiling they undergo. Beef and
mutton

mutton tea, as they are quaintly called, and chicken water, are very light decoctions of the lean parts of the animals, and consequently less stimulating. The stronger broths are more nutritive and alkaliescent; but *Jellies*, which are the mucilaginous extract of certain parts of animals, especially calves feet and hartshorn, are less alkaliescent, but not very digestible. All these liquid foods are disposed to become acedcent after standing some hours in a warm place: this may possibly be owing to a matter resembling vegetable starch.

Gen. 2. *Vegetable Liquid Nourishment.*

§. 35. The materials from whence these are prepared are enumerated Table 1, L. Some of these foods are prepared from our own grains, as oatmeal-gruel, flour-pap, and panada; several of them are imported.

§. 36. The *Rice* is a very digestible food, but of little nourishment. The *Sago*, *Vermicelli*, and *Tapioca*, seem to be pastes of the glutinous parts of mucilaginous vegetables; tapioca is said to be the jelly of the cassava. *Chocolate* is a paste prepared from an oily

feed or nut; it is very nutritive, but not easy of digestion; and therefore *cocoa* is used as a substitute, but improperly; for it is only the husky part of the chocolate nut, mixed with a little of the nut and some dross and dust; therefore very weak chocolate is equally digestible, and a more cleanly food.

§. 37. Of the foreign vegetables in use among us, *Tea* and *Coffee* are the most frequently employed; not so much as articles of food, as of luxury.

Dr. *Kæmpfer*, who resided many years in the East, tells us, that tea has some qualities which render it injurious to the nerves, and which seem to be owing to a clammy acid juice, which is so corrosive in the green plant, as to excoriate the hands of those who toast and roll it, though a part of it is discharged or corrected by drying.

It does not appear that there is more than one species of the tea-plant, the difference of the quality depending on the season of picking the leaves; the finest in the spring, the second about May, and the coarsest later in the summer. Of the finest, a sort is appropriated solely to the use of the royal family

mily of Japan, and costs 240 crowns per lb.; it is ground to powder, and mixed with warm water, and the whole drank together; the Tartars use a very coarse sort, to promote digestion after a meal of raw horse-flesh.

It is not likely that the green teas derive their colour from being dried on copper plates; it is certain, however, that many have their nerves affected by it, who drink bohea without inconvenience; and it is said that in Japan the green produces diabetes and consumption. A water distilled from green tea injected into the belly of a frog, and applied to the sciatic nerves, produced, in both experiments, a palsy of its hind legs. A decoction of the bohea is said to be astringent and antiseptic, and an extract of it is sometimes imported into Europe.

But, notwithstanding these injurious effects of tea, it certainly promotes digestion after a full meal of animal food, and a liberal use of strong drink; has good effects after extreme fatigue; and is a beneficial sedative drink in the first stage of inflammatory fevers.

§. 38. *Coffee* is a native of Arabia, but is now cultivated in the West-Indies, and a considerable

considerable quantity of the latter is imported into Turkey. Though its sensible qualities are apparently different from those of tea, its effects upon the nervous system are pretty similar to, though not so injurious as, those of tea: it manifestly counteracts the anodyne power of opium, and studious persons often use it to divert sleep, when they wish to protract their studies. Tea has frequently the same effect.

Coffee is better accommodated to those who indulge in the luxury of the table, and the use of wine; but improper for those who use a spare diet, and little or no fermented drink.

§. 39. Having finished the remarks on the class of vegetable sedatives, it appears that their effects may be considered as rather negative than positive; or, in other words, that when combined with animal foods, according to their proportion, or the degree of their sedative quality, they lessen their stimulus; or when used alone, as articles of diet, they diminish the energy of the nervous and circulating systems, and the strength of the body.

From

From this account of their general effects, it is manifest, that different proportions of vegetable food ought to be adapted to particular habits of body, and modes of life; and though there are, probably, no circumstances under which a person in health ought to subsist totally on vegetables; yet there are many under which a temporary use of them may be proper for the prevention or cure of diseases. See §. 20, page 191; and §. 27, page 205.

CLASS IV. STIMULANT VEGETABLES.

Pot-Herbs, their qualities and use—Condiments of different qualities—sedative—stimulant.

Having considered the alimentary parts of our foods, we come now to condiments or sauces, which are used to sharpen the appetite, and promote digestion.

TABLE I. O.

§. 40. *Pot-herbs* are certainly to be deemed sauces, rather than foods: all of them, except parsley, are stimulants in different degrees. The last of the column, as being the most stimulating, certainly promote digestion most,
for

for reasons assigned before. Mons^r. Goffe found that all of this genus were more digestible boiled than raw.

TABLE I. P. *Condiments.*

§. 41. Those under this head are what are peculiarly called *Confections*, as preserving animal and vegetable foods; and also pickles and spices.

The use of condiments seems to have been first suggested by a sense of oppression in the stomach when languid, and clogged by insipid foods. If we except salt and sugar, the condiments are certainly unnecessary to persons in health; and some nations use neither even of these.

I have already remarked, that every article which enters into our aliment, and is not easily changed by the powers of the constitution, approaches nearer to the nature of medicine than of food; and therefore ought to be used very sparingly by persons in health: Several of the condiments come under this description.

Sugar enters into the composition of many articles of our vegetable aliment; and some chemists have alledged that they owe their
 , nutritive

nutritive qualities chiefly to this; but the oily and mucilaginous parts are also nutritive. Refined sugar is less disposed to ferment and become sour than the Muscovado or brown sugar; which makes the latter more fit for preserving meat. This acid tendency disposes it to resist putrefaction; and therefore, since it has come into general use, putrid fevers have been less frequent in this kingdom.

Honey is a liquid sugar, but much more disposed to ferment.

Under this head we may bring all articles of confection made with sugar, honey, or melasses; and all the fruits preserved with sugar. Some have deemed sugar to be injurious to the teeth, from its saline and acescent quality; but the Africans, in our colonies, who eat the sugar-cane very plentifully, do not seem to be more subject to tooth-ache than persons in this climate; and as a proof of the wholesomeness of sugar, the planters know their negro servants are remarkably stronger and more healthy during the season of making sugar, than at any other season of the year, owing to the profuse use of the cane-juice.

Salt,

Salt, when used in a large proportion for the preservation of meats, resists their tendency to putrefaction for a time, but not entirely; but when used as a condiment at our tables, with fresh meats and vegetables, it gratefully stimulates the nerves of the stomach, promotes the solution and mixture of the glutinous and oily parts of our foods, and corrects acescency. That it is a wholesome addition to vegetable food appears from black cattle, sheep, and horses, being very fond of it. It ought to be used sparingly by young, florid, and hale people, as it heats and creates thirst.

I have brought *Olives* under this order, as they are generally used as a condiment with us; though as a food in their native soil.

Vinegar is sedative, and resists putrefaction; but being the product of an imperfect fermentation, it is not so powerful in this respect as some of the vegetable acids.

Some young women have used it to prevent corpulency, to the irreparable loss of health. It seems to act in these cases by weakening the powers of the stomach, and retarding the digestion.

The

The French use vinegar more liberally than we do, and it is a very proper sauce for their meats, which they generally eat in a putrescent state. Their vinegar is much more genuine than ours, which is generally adulterated with oil of vitriol.

Lemon-juice is a more powerful sedative, and resister of putrefaction, than vinegar.

Pickles are preserved either with salt, as the olive, or with vinegar, as the cucumber, walnut, &c. Those prepared with vinegar, if used moderately, are not an improper addition to animal foods, though they retard the solution of the food in a small degree; the more alcalescent foods counteract the sedative and acid quality of the vinegar.

Mustard and *Horse-radish* are less stimulating than the spices, and therefore more safe condiments in temperate and cold climates.

Spices are all the products of hot climates; and therefore more suitable condiments in those countries than in this; a fitter addition to vegetable than animal foods; and more proper for languid and debilitated constitutions, than those of a hale, sanguine habit.

They are more or less heating and stimulating, according to the quantity and quality of
of

of their essential oil. Mons^r. Goffe found that pepper did not retard the digestion of his foods so much as vinegar. Cornaro found that his stomach was very much strengthened by cinnamon; a proof that the condiments are not so injurious to invalids as Dr. Cadogan alledges.

Cayenne pepper ought not to be ranked with the spices, as its oil is not aromatic. The stimulating and heating quality of this and others of the capsicum kind, though apparently stronger than that of the spices, is less permanent, and therefore more safe. When parrots are sick and drooping, and do not cast their old feathers properly, the green pepper, of which the *chian* is made, never fails to restore them; and these pods, swallowed in the quantity of from three to thirty in a morning, have been of great use in that relaxed state of the body which is often connected with paralytic and dropsical tendency, generally known by the name of cachexy; almost always attended with weakness of the digestive organs.

C H A P. VI.

CLASS VII.—D R I N K S.

Drinks, their use—Sedative Drinks—Water of different kinds—Tests of its Purity—Watery Drinks—Stimulating Drinks of various kinds, fermented, ardent—Liqueurs, the use of them why dangerous.

PROP. V. OUR DRINKS ARE EITHER SEDATIVE OR STIMULATING, THE LATTER CHIEFLY FROM FERMENTATION, PRODUCED BY THE SUGAR CONTAINED IN VARIOUS FRUITS, SEEDS, AND OTHER PARTS OF VEGETABLES.

THE reader, before he proceeds to the perusal of this chapter, is requested to re-peruse §. 20, p. 191; §. 27, p. 205; and §. 39, p. 224; on the stimulating and sedative effects of our aliments.

I have inserted the class of drinks in this chapter, as it could not properly have a place in the other.

The

The natural and proper purpose of drink is to quench thirst, and dilute our foods in the stomach: but this purpose has been perverted by luxury; infomuch that we anticipate the appetite of thirst; and swallow such drinks as have a tendency rather to increase than allay it.

There are some persons who never drink at meals, and rarely on any other occasion: on the whole, however, we drink rather too much, and thereby weaken the activity of our digestive humours.

ORD. I. SEDATIVE DRINKS.

§. 42. Water is the only sedative drink we use; and is the basis of many of the fermented drinks. Some experiments seem to shew that water is composed of inflammable and dephlogisticated airs Dr. *Falconer** thinks that the brisk taste of spring water proceeds from fixible air; he thinks, and I believe justly, that leaden pipes and reservoirs are to be suspected, as part of the lead

* Essay on the Waters used in Diet at Bath: a work worthy of the perusal, not only of medical men, but of others who set a just value on the means of preserving health, so far as regards the choice of water.

may be dissolved. It is of various degrees of purity, and it may be proper to consider the different kinds: and as it is the basis of all our drinks, and many articles of food are prepared with it, a very small impregnation with improper matter may render it very injurious.

The relative purity of water is more accurately ascertained by chemical tests, than in any other way; but for these I must refer to Dr. *Falconer* and other authors on this subject; and shall take notice of the common tests only. Water is most pure, which is limpid, without colour or smell, breaks soap readily, boils pease and other pulse soon and tender, and does not give meat boiled in it a red hue; and moreover if it freezes readily, and does not incrust the bottom or sides of vessels in which it is boiled. Our water at Bath is, from Dr. *Falconer's* experiments, found to be purer than the pump waters in London. That in the Circus here, seems to be the best. Animals that drink impure water are apt to have enlargements of the liver and spleen.

Gen. 1. *Ice Water* is perhaps the purest of any, as the grosser mineral particles, which

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all waters contain in a greater or lesser degree, are probably excluded; as being less susceptible of congelation. For the discovery of the wholesomeness of the ice of sea-water, as a drink, we are indebted to the celebrated circumnavigator Captain *Cooke*.

It has been alledged that the *goiter* of Switzerland, or swelling of the throat, is owing to the use of snow water; but this fact is not well ascertained; as this disease occurs elsewhere, as well as in the neighbourhood of the Alps. It is more probably owing to some mineral matter with which the water is impregnated.

Gen. 2. *Rain Water* is perhaps the next in purity; as having undergone a kind of natural distillation.

Gen. 3. *River Water* is a compound of spring and rain water, blended with various impurities, especially near great cities: if permitted to settle, and deposite its gross contents, and especially if passed through a filtering stone, it is the next in degree of purity. It is seldom used either for drinking or in the kitchen; but some think it preferable for brewing.

Gen.

Gen. 4. *Spring Water* is always more or less impregnated with mineral substances; which, as they cannot be assimilated by our digestive organs, are so far noxious. It is better when it passes over a chalk than clay, or is found near coal-mines, or the sea.

The pump water in London, and I believe, in general, through the kingdom, contains limestone, and the three mineral acids of vitriol, nitre, and sea salt. The spirit of vitriol changes the limestone into a selenites, which is unconquerable by the powers of our constitution: the other acids dissolve a part of the limestone, and mix it so intimately with the water, that it cannot be separated from the water by boiling; and what remains of the limestone, which the acids do not act upon, falls to the bottom, and forms a crust on the vessels in which it is boiled. These mixtures in pump water have been justly suspected of producing various diseases, especially in invalids and children; and therefore a change of place may often be of as much use to weak persons, from the change of water, as of air. Boiling spring water makes very little, if any, change for the better; though about ten grains of salt of tartar to

a pint, would correct it exceedingly; but it would render it unpalatable.

Gen. 5. *Stagnant Waters*, as those of lakes, ponds, &c. are perhaps the most unwholesome of any, as they are apt to become putrid, and contain animalcules and their eggs; and therefore, if used from necessity, they ought to be first boiled, and then passed through a filtering stone: Rain water preserved in reservoirs ought to be corrected in the same way; for they are liable to the same objections as other stagnant waters.

Gen. 6. *Distilled Water*. I have been informed, that a very eminent and truly respectable physician in London uses distilled water for his common drink. It acquires a disagreeable flavour from the still, which it does not soon lose: It would however be right for invalids to use it in all cases where the common water near them is suspected of being impure. Bristol Hotwell water, now bottled and transported to every part of the kingdom, would probably be a good substitute.

As water drinking, like many other good old customs, is now very much out of fashion, the opinion of the celebrated Dr. *Hoffman*

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on this subject may induce some of my readers to adopt the practice.

“ Pure water,” says the Doctor, “ is the
“ best drink for persons of all ages and
“ temperaments. By its fluidity and mild-
“ ness it promotes a free and equable circu-
“ lation of the blood and humours through
“ all the vessels of the body, upon which the
“ due performance of every animal function
“ depends; and hence water-drinkers are not
“ only the most active and nimble, but also
“ the most cheerful and sprightly of all
“ people. In sanguine complexions, water,
“ by diluting the blood, renders the circula-
“ tion easy and uniform. In the choleric,
“ the coolness of the water restrains the
“ quick motion and intense heat of the hu-
“ mours. It attenuates the glutinous visci-
“ dity of the juices of the phlegmatic, and
“ the gross earthiness which prevails in me-
“ lancholic temperaments. And as to dif-
“ ferent ages, water is good for children,
“ to make their tenacious, milky diet, thin
“ and easy to digest; for youth and middle-
“ aged people, to sweeten and dissolve any
“ scorbutic acrimony, or sharpness that may
“ be in the humours, by which means pains

“ and obstructions are prevented; and for
 “ old people, to moisten and mollify their
 “ rigid fibres, and to promote a less difficult
 “ circulation through their hard and shri-
 “ velled vessels. In short,” says he, “ of all
 “ the productions of nature or art, water
 “ comes the nearest to that universal remedy
 “ or panacea, so much searched after by
 “ mankind, but never discovered.”

There are various sedative drinks of which water constitutes the principal part, as water-gruel, rice-gruel, barley-water, vinegar mixed with water, (which was the drink of the Roman soldiers) water impregnated with the juice of lemons or limes, or with the juices of fruits, or with sugar or honey; and to these we may add the different kinds of milk converted into whey by rennet; butter-milk, &c. some of which have more or less of nutritive parts in them; whilst others are rather to be deemed medicinal.

ORD. II. *Stimulating Fermented Drinks.*

§. 43. To render this subject more intelligible to those who are not conversant with the principles of chemistry, a few preliminary observations may be necessary.

1st. Beside

1st. Beside the sugar or honey prepared by the bee, or contained in the sugar-cane, there is, as I have already remarked, in many vegetables, especially the grains, fruits, and several roots, a sweet or saccharine juice.

2^{dly}. Fermentation is a chemical process of a very curious nature, by which the principles of bodies are changed, blended, and combined, so as to acquire a form and nature very different from that which they had before fermentation. It has not, perhaps, been accurately determined how many kinds of fermentation there are in nature. Three are well known; the vinous, the acetous, and the putrefactive: concerning the latter, some hints have been given, Essay I. so far as respects the changes it produces in animal bodies, but it certainly takes place in vegetables also.

3^{dly}. That fermentation by which vegetables acquire a stimulating and intoxicating nature, is called by chemists the *vinous*, derived from the Latin term for wine.

4^{thly}. Every substance which contains sugar, is susceptible of vinous fermentation; hence the great variety of fermented liquors.

5^{thly}. In

5thly. In every fermented liquor there is sugar, water, ardent spirit, or alcohol, or what is called brandy, and an acid or vinegar.

6thly. By fermentation a very extraordinary change is made on the sugar, which is a mild, nutritive, sedative, essential, vegetable salt; and is thereby converted into a pungent, stimulant, heating, and intoxicating liquor; for this is the property of all fermented drinks of every denomination.

7thly. The difference in the colour, smell, taste, and consistence of fermented drinks, seems to depend on the quantity of the essential salt or sugar, which in all is nearly the same; the nature of the essential oil, which is probably different in each; and the degree of fermentation. Wines often derive their colour from art.

8thly. When sweetness predominates in these liquors, as in ale and sweet wines, it depends either on the quantity of the sugar having been so great in proportion to the watery part, as that the whole could not be assimilated into a vinous nature by fermentation; but this is rarely the case, for the brewers, whether of beer or wine, are sufficiently economical in that respect; sweetness, therefore,

therefore, more frequently proceeds from the fermentation not having been sufficiently brisk, or having stopped too soon; so that a considerable portion remains unchanged.

9thly. The strength of these liquors depends partly on the quantity of the sugar being considerable, and its being chiefly converted into the vinous state, so that a considerable quantity of ardent spirit or brandy is produced; for on this chiefly depends its intoxicating quality.

10thly. There is an acid in all fermented liquors, even the strongest and most perfect. This may proceed from there being a considerable quantity in the vegetable, as in some grapes and other fruits, so that the whole cannot be subdued by the sugar, which in these fruits is generally in too small a proportion; hence it is that in preparing what are called made wines, it is necessary to add a considerable quantity of sugar to the fruits. But acidity happens more frequently from the quantity of sugar being either too small, or the fermentation not being continued long enough to generate a sufficient quantity of ardent spirit; so that the sugar, being in its nature acedcent, proceeds to the next stage of fermentation,

fermentation, called the *acetous* or vinegar ferment, by which the ardent spirit is gradually lessened or subdued. Hence it is that sweet wines are very apt to become sour; and the wines of hot climates have more or less brandy added to them, otherwise they would not keep; or in other words, they would pass from the vinous to the acetous fermentation, or become vinegar: so that it is not so much the quantity of the sugar, as the compleatness of the vinous fermentations, which prevents the conversion of wine, ale, cyder, &c. into vinegar.

11^{thly}. There is an austerity in some fermented drinks, owing either to the nature of the fruits, or their being subjected to fermentation before they are sufficiently ripe; so as that the acid may be blended with the sugar, mucilage, and oil.

12^{thly}. In fermentation there is a very considerable quantity of air thrown off. We know that this air forms a constituent principle of the vegetable, and remains blended with the other principles in a fixed or quiescent state; so that it is not, as was formerly supposed, a generated principle, but merely extricated, or set loose, by the act of fermentation.

Some have supposed that this air is what is called the fixible, produced by a combination of the inflammable air of the watery principle with the vegetable of the sugar. Fermented liquors, therefore, are said to be brisk, when a considerable quantity of this air is extricated; and flat, when, in consequence of imperfect fermentation, very little of it has been extricated, or has made its escape: to prevent which, fermented liquors ought to be kept in vessels close stopped. This air renders fermented liquors more grateful to the palate and nerves of the stomach; but does not, I believe, add so much to its intoxicating quality as has been supposed.

Having premised such remarks as relate to fermented liquors in general, I proceed to those that are applicable to particular kinds.

Fermented liquors are of great antiquity; and though *Noah* is said to have invented the method of making wine, yet it is probable that the Antideluvians used some kind of fermented liquors before his time. The variety of fermented drinks is very great; *Pliny* says they amounted to 195 in his time.

Few, even of the uncivilized nations, are destitute of some kinds of fermented liquors.

Gen. i.

Gen. 1. *Beers and Ales, or Barley Wine.*

§. 44. Malt, or fermented barley, produces these liquors; and as they contain a very considerable portion of nutritive particles, especially new ale, tiplers may be said, with *Boniface*, to eat as well as drink their ale.

Fermented liquors of this kind were invented, it is said, by the *Egyptians* before wine; and from that country they were probably introduced into Greece, by the emigrants from Egypt.

Beer is called by *Aristotle* and *Xenophon* barley-wine. *Ale* had different names; and among others, one which signified the strength of corn. It was the common drink of the lower people, even in wine countries. Though these liquors are generally made from barley, yet they may be prepared also from wheat, rye, oats, rice, or maize malted; though malting is not indispensibly necessary.

In proportion as the fermentation is carried on, more of the nutritive particles are converted into the spirituous, they become by age less sweet, and more intoxicating; as is the case with *strong beers* of a considerable age.

Small

Small beer, as containing a less proportion of sugar, is consequently less heating and stimulating. In opulent families it is usual to drink stale and hard small beer, which sometimes produces dangerous colics; a near and dear relation of mine was destroyed by it.

Porter is a peculiar kind of beer, the mode of preparing which is known to few; and though it has been insinuated that some very extraordinary and exceptionable ingredients enter into its composition; yet it does not seem to be less wholesome than the other beers.

Hops seem to be a necessary addition for the preservation of malt liquors; if, as the very ingenious Dr. *Percival* has shewn by experiment, that acids and bitters neutralize each other; though this fact has been disputed.

Gen. 2. *Honey Wines.*

§. 45. *Mead* is made from honey and water fermented, and in quality holds a middle place between ale and the sweet wines. *Metheglin* differs little from mead.

Gen. 3. *Cyder and Perry.*

§. 46. These may be termed apple and pear wines, and are really made wines; they are less alimentary, but more acescent, than the beers, and therefore less stimulating. They seem to have been invented later than beer or wine. They are supposed to be sometimes adulterated with turnip or carrot juice, but the adulteration is not injurious as to the quality.

Gen. 4. *Made Wines.*

§. 47. It was the fashion among physicians formerly, to reprobate our made wines as unwholesome, but very unjustly; for if they are well fermented, and kept to a proper age, they are preferable to the foreign wines, as being free from adulteration, when made in private families.

Gen. 5. *Foreign Wines.*

§. 48. The variety of wines is very great, not so much owing, perhaps, to the diversity of the fruit, as to the various mixture of one wine with another, and of the juices of other fruits; as cyder, the juice of turnips, floes, carrots, &c. These mixtures, if well made,
render

render the wines more palatable, without being less wholesome. It is however suspected, that the practice of mixing sugar of lead with wines to destroy their acescency, is frequent, and must be very pernicious: it has been alledged that arsenick has been used as a refiner.

Although, as I remarked before, a certain proportion of ardent spirit is generated by fermentation, and gives the intoxicating quality to all fermented liquors; yet in many wines the proportion is so small, that they cannot be kept for any time without a farther addition, and that is generally made by brandy distilled from wine. But there is reason to believe, that much of the low-priced wines used in this kingdom are not only almost entirely destitute of the juice of the grape, but, what is of worse consequence, have a large proportion of new corn spirit mixed with them.

Wines are of various kinds, sweet and austere, strong and weak. These different qualities depend partly on the quantity of sugar they contain, the degree of fermentation, the nature of their essential oils, different colouring ingredients, or the husks,
and

and various mixtures of other fermented liquors, especially cyder and brandy.

The wines of the Northern countries, as the Moselle, Rhenish, Claret, Burgundy, Champaign, &c. are more acid and brisk, and have therefore less sweetness, than those of the Southern countries; and yet it is alledged that the latter are more adulterated with brandy than the former, before they are exported, to prevent their becoming sour in consequence of their imperfect fermentation.

Old wines and other fermented liquors are preferred by connoisseurs; but though they may be deemed more palatable, they are not certainly more wholesome, if kept beyond the time of the fermentation being compleatly finished. *Cornaro* found old wine very disagreeable to his stomach, and new wine very grateful. It is supposed that animal foods, on account of their putrescent tendency, require fermented drinks to resist that tendency; but I have known several persons who ate liberally of animal food, and yet drank nothing but water, and without inconvenience. Water is certainly the best drink under a vegetable diet.

ORD. 3. *Ardent Spirits.*

§. 49. All the spirituous liquors come under this denomination.

Gen. 1. *Rum.*

Gen. 2. *Brandy.*

Gen. 3. *Arrack.*

Gen. 4. *Liqueurs and Cordials.*

It is a curious circumstance, that though rum, brandy, arrack, &c. are the products of *vinous* fermentation, yet they check it very powerfully.

It has been a question whether rum or brandy is most wholesome, some preferring the former, some the latter; and each appealing to experience, and even experiments; but the dispute is futile, for the difference cannot be essential, provided the distillation has been properly conducted, and the liquors genuine, and of a proper age.

Arrack is well known to be prepared in Asia. It cannot, in its properties, be essentially different from rum or brandy. These liquors, as well as foreign wines, are all more or less adulterated, unless purchased immediately from the importer.

Punch, which is a species of wine, is the safest manner of diluting ardent spirits, both

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the acid and sugar counteracting the stimulus of the spirit, and is therefore a safer drink than grog or toddy.

With respect to the closet cordials, the Lady *Bountifuls* of the last age prepared many of these, on the supposition of their being possessed of sovereign medical powers; and therefore indulged in the occasional use of them as surfeit waters; though in truth not better, or more medicinal, than plain brandy; and perhaps more stimulating and injurious, on account of the spices distilled with them.

The *Liqueurs* are more used on the Continent than in Great-Britain, and are more insidiously dangerous, as they are very palatable. Many persons of worthy and respectable characters have been insensibly and unconsciously led into the fatal habit of tippling, by a frequent use of closet cordials and liqueurs.

Having finished my general remarks on the contents of the tables, I shall have occasion to take notice of some of the articles under the following propositions.

C H A P. VII.

DIETETIC REGIMEN FOR THE PRESER-
VATION OF HEALTH.

Preventive Regimen—a certain Latitude allowable; Quantity; Quality—Breakfast—Dinner—Supper.

PROP. VI. THE QUANTITY AND QUALITY OF FOODS USED BY PERSONS IN HEALTH OUGHT TO BE SUCH AS MAY BE SUFFICIENT TO SUPPLY THE DAILY WASTE OF OUR SOLIDS AND FLUIDS, WITHOUT DISTURBING OR IMPAIRING THE FUNCTIONS OF THE BODY, NATURAL, VITAL, OR ANIMAL.

§. 50. **T**HIS Proposition relates only to dietetic regimen accommodated to the preservation of health, and containing rules suited to every kind of health. See §. 20, p. 191; §. 27, p. 205; and §. 39, p. 224; which will render this chapter more intelligible.

I do not wish it should be understood, that we ought to be anxiously inquisitive about the quality or quantity of every morsel we are about to swallow: this painful solicitude is totally incompatible with the enjoyment or duties of life: there is a certain mean to be regulated by our feelings.

I have (in Essay I.) explained the necessity for our using frequent supplies of food; and it may reasonably be supposed, that the supply ought to be in proportion to the expence. Nature has regulated this by the appetite of hunger; but we rarely attend to, or obey, her instinctive dictates.

We ought carefully to chew our food, otherwise we shall impose much unnecessary labour on the stomach, and retard digestion. Indications for regimen of diet, &c. in health, are proper, though not quite so necessary as in disease; and they can only be formed by analogical reasoning on the relation between the nature of the human body and its functions, the waste of its solids and fluids by the exercise of those functions, and the means of compensating for that waste. With respect to diet, the indication is to regulate the quantity so as that the waste shall
be

be fully supplied without excess; and the quality such as that it shall not be oppressive to the organs which prepare it. Hence the utility of physiological knowledge for the rational regulation of regimen.

§. 51. With respect to *quantity*, it is evident that this must be regulated by our feelings. A healthy man cannot be said to exceed in the quantity of his meal, if he finishes it with a relish for more; if immediately after dinner, he can read, write, or follow any other employment that does not require strong exercise or violent exertions; which to persons in easy circumstances will rarely be necessary, and ought in general to be avoided, as it disturbs digestion; though daily practised, from necessity, by the labouring poor.

If, on the other hand, a person is listless, drowsy, with a sense of load and oppression at the pit of the stomach; if his sleep during the night is disturbed, and he is oppressed by night-mare, and disagreeable dreams; and he awakes in the morning without his usual alacrity, or with head-ache and a disagreeable taste in the mouth; it is probable that he has exceeded in the quantity of his meals the

preceding day, and ought to be more abstemious, until those symptoms wear off, and a return of appetite shews that the natural, vital, and animal functions are relieved from the oppressive load that has been laid upon them by occasional intemperance.

Gluttony* is so fordid and ungentlemanly a vice, that it would be an affront to suppose that persons of polished manners could be capable of it; and yet I suspect that there are few persons in health, who do not more or less exceed at dinner, for reasons I shall assign hereafter.

* This term is only relative, for what would be excess in one person, would be moderation in another. The Emperor *Maximinus* and *Proculus*, who were men of gigantic strength and stature, ate twenty pounds of food at a meal; and I knew a man of large stature and great strength, who required thrice the ordinary quantity of food for his subsistence. Much in this respect depends on habit; it is however certain that we can subsist on a very small quantity even of vegetable food.

The celebrated Defender of Gibraltar, during the last siege, lived upon four ounces of rice a day, for eight days together; this gentleman, however, uses vegetables and water solely for his common food. We have well-attested accounts of persons who have subsisted with very little, if any food, for weeks, months, and indeed years; some from necessity, others from whim, and several under diseases. These latter were generally either deeply melancholic, lethargic, or in a state of idiotism, and the sensations and faculties of the organs much impaired, or totally lost.

It is worthy of remark, that infants and old people are least able to bear long fasting; and therefore they ought to be frequently fed with liquid rather than solid food.

We ought always to desist from eating before the sense of fulness becomes oppressive; for the rarefaction of the air, as soon as the food begins to dissolve, will increase the fulness of the stomach, and consequently the uneasiness. If the stomach be too full, digestion is not only stopped, but a kind of palsy of the stomach is produced.

§. 52. *Quality of our Foods.* Persons frequently enquire of physicians, whether this or that kind of food is or is not wholesome. The only answer that ought to be made to this question is, that of the articles of food in common use none can be deemed absolutely unwholesome; though, from a peculiar state of the nerves of the stomach, certain foods agree better than others, and therefore every person, whose stomach has been repeatedly distressed by particular foods, ought certainly to avoid them.

Cornaro, whose experience is of great weight, remarks, that whatever be the quality of foods, there can be no objection, unless they disagree, but that due regard ought to be paid to quantity, as the errors in this respect are very injurious; he having found
excess

excess to be the bane of health; and that invalids ought in many cases to eat just so much as to keep soul and body together, and to eat frequently. “ Were the pleasure of
 “ the palate lasting, (says he) it would be some
 “ excuse, but it is so momentary, that there is
 “ scarce any distinguishing between the be-
 “ ginning and the ending of it ; whereas the
 “ diseases it produces are very durable.”

It is a well known fact that, from a change of constitution, what agrees at one time of life, disagrees at another, and the reverse.

The only general rule with respect to quality is, that the quantity of our vegetable food ought to exceed that of the animal; and though we may gratify ourselves by a change of food; yet a variety of mixtures should be avoided, and our foods dressed in the simplest manner.

§. 53. *Breakfast.* With respect to the quality of our different meals, we seem to depart more from nature, and the custom of our hardy ancestors, with regard to breakfast, than any other meal.

The contrast is in truth ridiculous. A maid of honour, in the court of Queen
Elizabeth,

Elizabeth, breakfasted upon beef, and drank ale after it; whilst the sportsman, the mechanic, and even the day-labourer, now breakfast on tea.

Modern luxury having ransacked every quarter of the globe for its gratification; the use of tea is now become very general, even among the lower ranks in this kingdom.

As an article of breakfast, it is certainly improper, especially for the poor, whose diet is chiefly vegetable; and the prevalency of nervous diseases and palsies, among the middling and lower ranks, may be attributed partly to this cause.

To persons of fortune, who indulge in a plentiful use of animal food, high fauces, and rich wines, the use of coffee or tea after dinner may qualify the stimulating effects of the foods and drinks; but it were to be wished that *even they* would avoid tea as a breakfast, or qualify it by a large portion of cream and sugar.

The subjects of the British dominions are singular in their fondness for tea; at least no other European nation uses it to the excess we do. Happy would it have been for *Europeans*, if this enervating plant had never been
imported

imported from Asia. The Chinese use very little tea themselves.

But if persons of rank and fortune are unwilling to give up their habits of life, they ought, at least, to discourage the use of tea among their dependants; as much more wholesome and nourishing food may be substituted at much less expence, both of money and time.

Breakfast may be said to be the most natural of our meals, and that for which a temperate person ought to have the greatest relish; because, as many hours have intervened from the last meal, and as sleep and perspiration are favourable to digestion, if that has gone on properly, we ought to have a keen appetite for breakfast; otherwise we may be assured that some error has been committed in the quantity or quality of our preceding meals.

With respect to substitutes to tea for breakfast, milk and water, coffee, or weak chocolate, will be preferable. Those who will most probably read this essay, being persons of rank or fortune, will not, from their mode of life, be inclined to eat cheese, or cold meat; which, with soft ale, will be much preferable to tea for the laborious.

§. 54. *Dinner.* Moderate exercise before breakfast will whet the appetite, and we should not allow a long space to intervene between that and dinner; not only because long fasting is injurious, but as we may be induced to eat more at this principal meal than can be properly digested.

Variety of dishes is, however, the chief incentive to excess in quantity; and as people of fortune are generally *epicures* in some degree, they can rarely resist the temptation of tasting most of the dishes at table; such, especially, as are rendered palatable by high sauces, and thereby insensibly exceed a due mean.

Soups or broths ought frequently to make a part of the dinner meal; as they prevent excess in the use of solid animal food.

To avoid this temptation, those who have a due sense of the importance of health will be contented with one dish plainly dressed, and “throw their fevers and gouts to the poor.”

§. 55. *Supper.* It has been a question much agitated, whether supper is, or is not, a wholesome meal.

Though

Though the laborious ploughman may indulge with impunity, in a plentiful supper of animal food, yet indolent persons of fortune must be oppressed by it.

This oppression does not proceed from supper being a less wholesome meal than dinner; but because none but the laborious can bear repeated full meals of animal food in one day.

Celsus and *Pliny* tell us, that the ancient Romans made a very slight meal at mid-day, but ate a full, but early supper; and as persons of fashion, in almost every nation but ours, dine early, supper is to them an inoffensive meal.

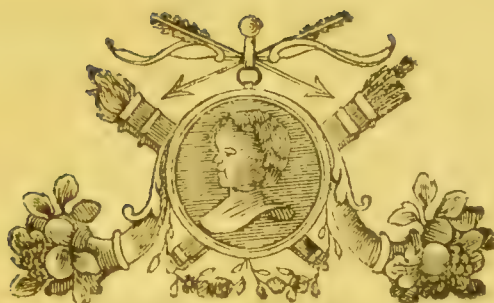
The truth is, we do not divide our meals properly; and imperfect and oppressive digestion is a necessary consequence.

As it appears, from experiments, that the foods rarely remain longer than six hours in the stomach, our meals ought to be regulated by this circumstance: and early breakfast and dinner will enable us to make an early supper, and by this means the extremes of repletion and long fasting may be avoided.

Our solid foods ought to be well masticated or chewed, not only that the saliva
may

may be copiously secreted and blended with them, and less labour imposed on the stomach; but because foods, when thrown too hastily into the stomach, distend its coats too suddenly, and consequently weaken them.

We may conclude this section with an old adage, that such as set a due value on health ought to remember that “We eat to live, and do not live to eat.”



C H A P. VIII.

QUALITIES OF DRINKS.

Necessity for, and use of Drink—Water, in general, the only necessary Drink—at what time of Life fermented Drinks proper—Water, even for the laborious, sufficient Drink—Inconvenience of sitting long over the Bottle after Meals—Effects of Dram-drinking—Signs of Excess in the use of Strong Drinks—Improper Practice of Young Men after Debauch—Occasional Excess why improper.

PROP. VI. THE QUALITY OF DRINKS USED BY PERSONS IN HEALTH OUGHT TO BE SUCH AS MAY PROMOTE THE DIGESTION AND ASSIMILATION OF OUR FOODS, THE DILUTION OF OUR HUMOURS, AND THE DUE REGULATION OF OUR SECRETIONS AND EXCRETIONS.

§. 56. **W**E are perpetually violating nature; we eat without appetite, and we drink without being thirsty.

Though the digestive humours are secreted very copiously, yet they are not sufficient without

without the addition of some liquid. Those who make soups a part of their meals, require very little drink.

Drink is of use in supplying our blood with watery particles, not only to render the circulation more free in the minute vessels, but to promote the secretions, especially of the digestive humour; and wash out, by the different excretions, the useless and noxious parts of our bodies.

It will not, I think, admit of a doubt, that water is the only drink necessary for a person in firm health, especially in the earlier periods of life; and that fermented and spirituous liquors, of which luxury has introduced a great variety, ought to be appropriated *solely* to the comfort of invalids, and the invigoration of old age. It may here be proper to observe, that all drink beyond the gratification of thirst is superfluous and improper; and as thirst is most urgent when the body is heated, care should be taken that cold drinks, especially water, be used with great caution when the body is in that state, as the most dangerous consequences may ensue.

To the credit of the present age, hard drinking is rarely practised by persons of liberal

beral education; though, from the habit of sitting at table some hours after meals, we are tempted to exceed in the quantity of wine; which, in persons in health, retards digestion, and increases the temporary fever which attends that process.

It will scarcely be necessary to remark, that strong drink of any kind is improper before dinner, and that dram drinking is a sordid and destructive practice.

It would not be consistent with my plan to enter into a minute detail of the bad consequences of occasional or habitual excess in the use of strong drinks; it is certainly productive of many diseases, and equally enervates the faculties both of body and mind. Spirituous liquors are however much more injurious than those that are fermented; and many persons, of all ranks in this kingdom, are yearly destroyed by dram-drinking. Some physicians alledge that it destroys the villous coat of the stomach, and coagulates the blood; it is more probable, however, that it weakens the sensibility of the stomach, and brings on a degree of *palsy* of the organ.

It has been alledged, that the laborious require strong drink; but, I believe it is not necessary,

necessary, even to them; though a moderate use of it may not be very improper.

But as my readers will not be of that class, it is unnecessary for me to enter on the subject.

Men of fortune do sometimes, in pursuit of pleasure, undergo more labour than the ploughman. A fox-hunt was formerly a prelude to a debauch, and fuel was thereby added to fire; but the practice is now less frequent. I shall take notice of this practice under the head of exercise, and shall now proceed to remark, that as I do not expect that any admonition of mine shall induce my male readers totally to relinquish the pleasures of the bottle, I must be contented with endeavouring to regulate the use of it.

If, after the use of wine or other fermented liquors, a person finds himself heated, and his head clouded, he may be assured that his liquor is either bad in its kind, or that he has exceeded in quantity; especially if his sleep be disturbed, and he feel himself heavy and oppressed next morning.

Some men are disordered by a very small quantity of strong drink; that quantity, therefore, ought to be avoided, as it must be

to them an excess, by exciting an artificial fever, which will wear out the springs of life.

It is very much the practice with young men to take a dose of salts to carry off the effects of a debauch; but it is very injurious, if frequently repeated: the best and safest means of removing these effects is by quiet and abstinence.

It has been alledged that a little excess is allowable in persons who are in health; but I think it would be more prudent to pursue a plan of regular temperance, rather than hazard the consequences of occasional excess; which, independent of the immediate effects, often degenerates into habit.



C H A P. ~~VIII.~~ IXON THE DIFFERENCE OF FOODS USED BY
DIFFERENT NATIONS.

Diversity of Foods used by different Nations—Vegetables the earliest Food of Man—different kinds used by different Nations—Fish used by Mankind before other Animals—Flesh Meats not used till after the deluge—Different modes of preparing Food in different Nations—some without any preparation or Cookery—Effects of eating raw Animal Food—The most ancient mode of dressing Animal Food—Mode of feeding Animals for Food—Times of Eating among different Nations—Profusion of former Times greater than the Elegance of the Table—Account of a Feast in the 14th Century—Luxury of ancient and modern Times—Expedients for increasing Appetite.

PROP. VIII. IN DIFFERENT AGES, COUNTRIES, AND CLIMATES, MEN HAVE USED DIFFERENT KINDS OF FOOD, AND HAVE NOT ONLY ADOPTED DIFFERENT MODES OF PREPARING IT, BUT HAVE VARIED CONSIDERABLY WITH RESPECT TO THE NUMBER OF THEIR MEALS, AND THE TIMES OF EATING.

TO relieve my readers, I have allotted this chapter to their amusement, and the gratification of their curiosity, though the enquiry will not be destitute of utility.

§. 57. It is probable that the primæval inhabitants of the earth were, for several ages, content with vegetable foods, and milk.

Fabulous history brands *Hyperboreus* the son of *Mars*, with the guilt of being the first who butchered the ox and sheep for the gratification of his appetite. Before the practice of agriculture, herbs and roots must have been the chief food of man; and though Europe produces spontaneously, only berries, acorns, and chesnuts, yet our ancestors were probably long contented with this simple food; for the grains and fruits we now cultivate, were originally brought from Asia.

Those of the *Bramin* cast in India support themselves at this day entirely on vegetable diet, animal food being prohibited by their religion; and, from the antients of this tribe, the *Pythagoreans* probably borrowed the hint for a similar regulation of their diet.

The *Arabs* feed on dates and milk, the *Brasilians* on honey, cassava, or manioc, a poisonous root, and the fruit of the cashew or acajou. The first Christian *Hermits* in the Thebais, or upper Egypt, lived on roots and water, a practice which seems to have been adopted by several rigid monastic orders.

The

The inhabitants of the *Appenines* live chiefly upon chesnuts. The peasants of the *Genoese* territory live upon bread, oranges, lemons, and olive oil ; and the *galley-slaves* of France and Italy are fed on bread and water.

Various instances have occurred of persons in every age, who, either from whim, or a conviction of the superior wholesomeness of the diet, have lived for a considerable time on vegetable foods ; and the great Sir *Isaac Newton*, whilst he was writing his treatise on Optics, lived almost entirely on bread, and wine and water.

There have been various substitutes for bread in different countries ; as the bread-fruit, the cassava, plantain, yam, edda, &c. The *Egyptians* used the root of the papyrus ; the *Laplanders* the inner bark of the pine tree, and the bones of fishes ; the *Siberians* the root of the lily ; and the *Ethiopians* acorns.

§. 58. *Fish* were probably the first animals used as food. The inhabitants of *Caramania*, and *Gedrosia*, provinces of *Persia*, not only fed themselves, but their flocks, with fish ; and were therefore called by *Herodotus* and *Strabo* *Ichthyophagi*, or fish-eaters. The *Egyptians*,

tians, whilst the *Israelites* resided in that country, lived on fish; and the *Banians* eat no other animal food.

The miserable inhabitants of the northern countries of Europe, as those of Iceland, Lapland, Greenland, and even the Orkneys, who have scarcely any vegetables, live chiefly on fish; and some of them are peculiarly fond of a rancid and putrid preparation of the row, which is called *cavear*; and it is a singular circumstance, that the *garum* of the Romans was of this kind, of which they were so fond, that *Suidas* and *Seneca* tell us they purchased it for nearly its weight of gold. The *Arabs* eat locusts, and other nations toads and scorpions, which, in their nature, are not very remote from fish.

§. 59. *Flesh meats* were probably not used till after the deluge, the trees and herbs being unfit to yield any food, from the state they must have been left in by the inundation. Though civilized nations have very much reduced the variety of meats used as foods, and confined them chiefly to those of animals which feed on grains and grass; yet many others were, and are now used, of which we should think with aversion.

The *Greeks*, as *Hippocrates* tells us, ate puppies, horses, and asses; the *Otakeitans* eat dogs; the *Negroes* of the Gold Coast of Africa, eat dogs, cats, and rats, as do the northern *Tartars*, who not only allay their hunger by bleeding their horses occasionally, and drinking the blood; but, as well as the *Arabs* and *Patagonians*, eat the horse, ass, and camel. Beasts and birds of prey have been rarely eaten from choice, because of the rankness of the flesh; though it has been asserted that the meat of the lion and tiger has been found to be not inferior to veal.

Some persons have a peculiar curiosity to taste every thing that they can procure; and I knew a lady who indulged herself in this way, to a strange degree.

Though the account some travellers have given of *anthropophagi*, or man-eaters, was not credited by many, yet we are now well assured that the inhabitants of *New Zealand* eat human flesh; but whether as a common food, or only of their prisoners taken in war, has not been ascertained.

§. 60. *Preparation of Food.* The primæval inhabitants of the earth certainly ate both
their

their vegetable and animal foods raw; and to this day, some of the *African* nations, the *Esquimaux* Indians, *Patagonians*, and *Samo-eides*, devour raw flesh and fish, and drink the blood of the animals. Raw flesh produces great bodily vigour, ferocity of mind, and love of liberty. Some years ago a girl was caught in France, supposed to be of the *Huron* tribe, who had all the ferocity, strength, and agility of a wild beast; but when Madam *Le Blanc*, as she was called, was a little civilized, and brought to live on dressed meats, she lost much of her strength and agility.

Individuals in different countries have lived on raw meats. The famous philosopher *Zeno*, the first of the Stoic sect, used all his food raw; and the celebrated *Diogenes*, the cynic, unwilling to be outdone by his brethren the dogs, attempted to live on raw meats; but it is said that the practice destroyed him.*

The most ancient way of dressing meats was by roasting or broiling, as appears from

* To obviate critical censure, I would just observe, that though *Horace* calls *Diogenes* a dog, yet the term cynical was not applied to the sect, from the supposed similarity of their disposition to that of dogs, but from the name of the place where his sect met.

Homer; boiling was of later invention, though this mode of cookery seems to have been known to *Moses*. It would be unnecessary to trace the origin of the various refinements in this art; though many of them are undoubtedly borrowed from the ancients, yet we certainly excel them in the elegance and variety of our cookery.

To render foods more palatable and digestible, some preparation seems to be necessary.*

§. 61. *Feeding of animals destined for food.* Attention has been paid to the mode of feeding animals, so as to render their flesh more firm and nutritive, and to give them a certain degree of fatness; as it has been found that the lean of fat meats is more palatable. Our animal foods are not now so nutritive and wholesome as formerly, from the practice of

* It may not be improper to remark here, that the common mode of boiling animal and vegetable foods is, in every point of view, very improper, unless for the purpose of preparing soups or broths; because they are much better prepared by being exposed to the steam of boiling water; and in this way sea water answers the purpose as well as fresh, as is evident from experiments. On the principle of œconomy it is preferable, as a much smaller proportion of juices is lost in this way than by boiling in the common way; and lessening the expenditure of fresh water may be often an object worthy of attention during a long voyage.

feeding

feeding oxen with linseed-cakes, and some other animals with very improper foods.

It has been thought necessary to deprive the animal as much as possible of its blood, as the meat is thereby longer preserved from putrefaction; for blood is not an unwholesome article of food; but by over-driving those animals to slaughter, the blood is so diffused in the cellular membrane, that it cannot be emptied by bleeding, and the meat is heavier, to the benefit of the butcher.

Meats, when dressed soon after the death of the animal, are not so juicy, palatable, or easy of digestion, as when kept a moderate time, so that they may acquire a small degree of putrescent tendency.

Without referring to the practice of the *Esquimaux* and *Hottentots*, who feed upon rancid and putrid meats; some civilized nations have adopted the same goût.

The cookery of vegetables not only renders them more soluble in the stomach, but deprives them of a very considerable quantity of air, the fruits especially; insomuch that an apple contains a quantity of air forty-eight times its own bulk.

§. 62. *Times of eating.* With respect to the times of eating, the most natural and obvious inducement is hunger. But this, which ought to be the sole rule, has, among civilized nations, yielded to custom and convenience; and hence it is that in different ages and countries, different hours have been allotted to set meals; and such is the influence of custom on our appetites, that they accommodate themselves to it.

The ancient *Greeks* and *Romans* had four meals a day; the Romans, beside breakfast, made a slight meal about mid-day, ate their supper about three or four o'clock, and it should seem that the *comesatio* was a later meal than that of supper; though it was not probably a constant one, except amongst the higher ranks, who, in the latter ages, practised the most expensive and even ridiculous refinements of luxury.

As our ancestors breakfasted early, they dined about eleven or twelve o'clock, and had at least two meals after this, as appears from the allowance appointed for a *Lady Lucy*, who seems to have been one of the maids of honour in the court of Henry the VIIIth. I shall transcribe this, as a matter of curiosity,

to shew in what manner the *fine* ladies lived in those days.

This lady was allowed for breakfast, a chine of beef, a loaf, and a gallon of ale;—for dinner, a piece of beef, a slice of roasted meat, a loaf, and a gallon of ale;—afternoon, a manchette, (which seems to have been a loaf of coarser bread) and half a gallon of ale;—for supper, a mess of porridge, a piece of mutton, a cheate, (or finer loaf) and a gallon of ale;—after supper, a manchette loaf, a gallon of ale, and half a gallon of wine.

This lady therefore, ate five times a day, and though there does not seem to have been much variety, there was at least great plenty, both of meat and drink.

The wine seems to have been reserved for her Ladyship's evening draught; and if the ladies of this rank were disposed to be sociable, each, *by clubbing her bottle*, might, by a convivial computation, be elevated to a *gaieté de cœur*, which their successors have never experienced from the modern beverage *tea*.

In *Birch's* Life of Henry Prince of Wales, we have a curious account of the bill of fare for each table of the household; in which
there

there seems to have been greater plenty, than variety of dishes.

We have an account of the breakfast of an Earl and Countess in Lent, viz. a loaf of bread, two manchettes, a quart of beer, as much wine, two pieces of salt fish, six baconed herrings, four white herrings, or a dish of sprats. This was a tolerable meal for a fast-day, especially as it was one meal of four.

It is worthy of notice, that persons of high rank ate their meals earlier than those of the middling and lower. A woman of quality would not now consent to breakfast at seven, dine at ten before noon, sup at four, eat her livery meal between eight and nine at night, and go immediately to bed.

Were the modern fine ladies to conform *in some degree*, to such *sober* hours, their healths, their fortunes, and in a *few* instances, perhaps their *reputations*, might suffer less than they do at present.

At public entertainments, however, it appears that our ancestors indulged in a variety, nearly equal to that which is exhibited at a modern Lord-Mayor's feast, though far exceeding it in the plenty and the expence.

In

In 1470, *Nevil*, Archbishop of York, gave an entertainment to the nobility, gentry, and clergy, in which the following articles were used:—300 quarters of wheat, 300 tons of ale, 104 tons of wine, 1 pipe of spiced wine, 80 fat oxen, 6 wild bulls, 300 pigs, 300 hogs, 300 calves, 200 kids, 1004 sheep, 3000 geese, 3000 capons, 4000 ducks, 4000 rabbits, 2000 chickens, 100 peacocks, 200 cranes, 204 bitterns, 400 herons, 200 pheasants, 500 partridges, 4000 woodcocks, 400 plovers, 100 curlews, 100 quails, 1000 egrets, 200 rees, 4000 bucks, roebucks, and does, 155 hot venison pasties, 4000 cold venison pasties, 1000 dishes of jellies, 2000 hot custards, 4000 cold custards, 400 tarts, 300 breams, 8 seals, 300 pikes, and 4 porpoises.

To prepare this immense entertainment, there were employed 1000 cooks, 515 skul lions, and 62 kitcheners.

The following bill of fare may be considered as a contrast to the Archbishop's feast; it was given eight years after, viz. 1478, by the Wax-Chandler's Company. The whole did not exceed seven shillings, and yet the master swore the pig was too dear by a penny; the price of each article is annexed:

A loin

	s.	d.		s.	d.
A loin of beef	0	4	A goose -	0	6
2 loins of mutton	0	8	A leg of mutton	0	2½
2 ditto of veal	0	8	An hundred eggs	0	8½
A pig -	0	4	Red wine a gallon	0	8
A coney -	0	2	Ale a kilderkin	1	8
A dozen pigeons	0	7			
A capon -	0	6		7	0

Luxury. Civilized nations, in all ages, not content with living plentifully, have placed much of their gratification in luxurious indulgence. Beside *Heliogabulus*, the prince of gluttons, many of the principal men of every country have been equally attentive to cultivate the principles of cookery as of politics; but none exceeded the celebrated *Count Zinzendorf*, chief minister to the Emperor Charles VIth.

The Count, who kept a splendid and very elegant table, was always inaccessible for an hour before dinner. Various were the conjectures concerning the purposes to which he dedicated this time. One of his guests, by means of a bribe, procured a place where he could observe the minister, and discovered him with a napkin under his chin, tasting all the sauces, and directing the dishes with which they were to be used.

§. 63. *Epicures*,

§. 63. *Epicures*, not contented with their natural appetites, have used various expedients to whet them, which have, however, eventually tended to destroy all appetite. The beastly practice of the *Romans*, who took an emetic before they went to a feast, is not yet totally disused ; and I recollect an instance of an epicure's being disappointed of a turtle-feast, by the effects of ipecacuanha taken a few hours before dinner. But a still more destructive practice of drinking white wine, as a whet before dinner, and which has brought many worthy citizens to their graves, is now less frequent than formerly.



C H A P. ~~IX.~~ X

QUALITIES OF FOODS AND DRINKS.

Comparative Digestibility of Foods ; animal, vegetable, roasted, baked, stewed, broiled, boiled—Quantity and Quality of Foods to be accommodated to Age, Sex, Temperament, Habit of Life.

PROP. IX. THE QUALITIES OF OUR FOODS AND DRINKS OUGHT TO BE SUCH AS MAY RENDER THEM GRATEFUL TO THE PALATE, EASY OF DIGESTION, AND ADAPTED TO THE NOURISHMENT OF THE BODY.

§. 64. **W**E have seen in the preceding chapter, that mankind, in different ages and climates, have used a great variety of foods, some without preparation, others changed by all the arts which luxury could suggest.

After the experiments, some of them contradictory, which have been enumerated in the preceding parts of this essay, it would be very difficult to estimate precisely the relative

T digestibility

digestibility of animal and vegetable foods. It may however in general be remarked, that as vegetables contain fewer nutritious parts than animals, they are more easily digested; and as the nourishment they afford is less rich and permanent, a larger and more frequent supply of them will be required.

Nature has intended that there should be a certain proportion between the waste of our bodies and the supplies.

We can subsist longer on a meal of animal food than of vegetable; that is, we are sooner hungry after the latter, which shews that its nourishment is sooner exhausted; and upon the whole, the stomach and the constitution in general are less oppressed by it; and yet there are some vegetables which are perhaps more difficult of solution in the stomach than animal foods.

Thus, Dr. *Stevens* found that mutton was more digestible than potatoe or cabbage; but that pease, beans, and the grains, were less digestible than other vegetables, the nuts perhaps excepted. It may not be improper to observe here, that some eminent physicians have conceived an opinion that potatoes contain some qualities that dispose
to

to produce or exasperate scrophula. Con-
versing with my friend Dr. *Stack* on this
subject, that gentleman, who is a native of
Ireland, and I, who have occasionally visited
that kingdom, where potatoes form the chief
part of the food of the poor, concur in opi-
nion that the imputation is not well founded.

The lean of fat meats is more digestible
than that of lean meats, because the oily
particles, when incorporated with the muci-
lage, render the juices of a more perfect ani-
mal nature.

§. 65. Fat, butter, and oil, have been, in
general, considered as very difficult of diges-
tion; and it has, moreover, been alledged,
that they are very much disposed to become
rancid by the heat of the stomach. That
these oily matters, if used in very large quan-
tities and often, as food, may oppress the
stomach by their tenacity or viscosity, is very
probable; but as oil constitutes a very confi-
derable part of our foods, both animal and
vegetable; as the red part of the blood is sup-
posed to consist chiefly of oil, and as a large
quantity of oil is deposited in various parts
of the body, chiefly in the form of fat; it can

hardly be conceived that a principle which is so predominant in our bodies, should be inimical to health, but the contrary; though all its uses in the œconomy may not as yet have been ascertained.

With respect to the use of oil and fat in a rancid state, it may be offensive to the nerves of the stomach of persons who have not been accustomed to such food; but the hardy ploughman eats his rusty bacon without inconvenience. Rancid fat and oils are a considerable part of the foods of some nations; and it is a curious fact, that some men who wintered in Greenland, being exceedingly afflicted with scurvy, found, that whilst their salt provisions increased the disease, the whale fritters, though mouldy and rancid to a high degree, rather retarded its progress.

It has been supposed by some, that broiled, roasted, and fried meats are more difficult of digestion than boiled or stewed: boiled meats are certainly less nutritive, because a considerable part of the juices is lost in the boiling; the same objection cannot be made to stewed meats, but they are often too highly seasoned.

The pupils of the Boerhaavian school, of which Dr. *Cadogan* is now almost the only survivor,

survivor, have been very tenacious of the hypothesis which attributes most diseases to faults of the humours; and every *Lady-Doctor* and old apothecary talk with great confidence of foul and gross humours being bred by the use of butter, and therefore restrain children and young people from the use of it. I have already made some remarks on the supposed contaminations of the blood, vol. I. p. 9, 108, 138, &c. to which I refer, and shall here make some farther observations.

1st. If children are disposed to be gross and fat, the use of butter may be improper, because it may increase the disposition to corpulency; otherwise a moderate use of fresh butter may be of use, as it may check the acid fermentation which is generally prevalent in the stomach at this period of life; and as all oily matters are confessedly slow of digestion, they may contribute to a longer retention of the foods in the stomach; for in brisk and active children, it is probable that, as the appetite is too keen, the food does not remain long enough in the stomach to undergo the necessary changes, so that it passes into the intestines in a crude state, and contributes to the generation of worms.

2dly. Boils, eruptions, and other *supposed* effects of foulness of blood, generally proceed from some faults of the perspiratory vessels, or superficial glands, which retain some acrid particles which are generated even in the healthiest bodies. Hereditary or infectious taints may seem to be an exception to this opinion; but there is no proof that they corrupt the general mass of blood; it being more probable that they lurk in the secretory organs, where being accumulated to a certain degree, they manifest themselves by tumors, eruptions, &c. this, at least, seems to be the case with scrophulous infection.

3dly. Though Dr. Cadogan is not always very explicit in assigning his reasons, it should seem that his interdicting roasted, fried, or baked meats, and such as are salted or spiced, as being improper for invalids, proceeds from the idea of their creating impurities of the blood: I would observe, that such foods as are most grateful to their weak stomachs are most likely to be converted into good nourishment, as I shall shew hereafter. With respect to the rancidity the animal juices are supposed to contract by heat in this mode of cookery, and which he seems to connect with indigestibility

indigestibility and foulness of blood, his *ipse dixit* is contradicted by experiment; for the Abbé *Spalanzini* found that dressed meats were more digestible than raw, and roasted meats more so than boiled; and Dr. *Stevens*, from experiment, tells us, that the high-flavoured alcalescent meats are more digestible than the more insipid.

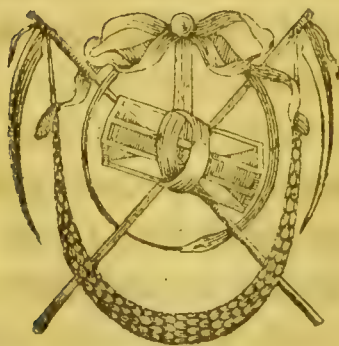
4thly. There are some facts just related above, which shew that rancidity is not so favourable to the generation of acrimony as has been supposed. Baron *Haller* found that suet contained a considerable quantity of acid, and it is probable that it is combined with all oily and fatty substances; and may therefore counteract their disposition to alcalescent or putrid acrimony.

5thly. These observations are made to invalidate opinions taken upon trust, and not to vindicate the use of such foods in the cure of diseases; for they are certainly very objectionable in many cases, as will be taken notice of in a future chapter, where the impropriety of admitting them as articles of diet, equally with those which Dr. *Cadogan* recommends, is explained on different principles.

The

The first necessary step towards the establishment of truth, is the detection of error; and though it cannot be denied that certain acrimonies may be introduced into the body by infection, and even generated in the body; yet the idea of a general morbid state of the blood being a frequent cause of diseases, has often been productive of a frivolous or erroneous practice.

Having made these general remarks here, I shall occasionally apply them hereafter.



C H A P. XI

REGIMEN OF DIET FOR THE PREVENTION
OF DISEASES.

Necessity for the Knowledge of Physiology in forming Indications for Regimen—Food of Infants—of Children—When they may use Animal Food—Food of Young Persons, of Middle Age, of Old Age, of Women, of Studious Men—Diet to be adapted to different Temperaments, to the Way of Life, Season and Climate—Important Remark on the Anticipation of Disease.

PROP. X. THE QUANTITY AND QUALITIES OF FOODS AND DRINKS USED BY PERSONS IN HEALTH OUGHT TO BE ACCOMMODATED TO AGE, SEX, CONSTITUTION, WAY OF LIFE, SEASON AND CLIMATE.

THE reader may recollect that I divided foods and drinks into the stimulating and sedative, which may be denominated the high or low regimen; and I shall make use of this distinction in regulating the diet.

If

If the knowledge of physiology be necessary for forming indications of regimen with regard to general health, it must be much more so when it is to be adapted to all the circumstances enumerated in the general proposition; for the state of the body, its organs and functions, being different under each, a knowledge with respect to the state of the body which constitutes these differences, must not only be an object of curiosity, but of real importance, to those who set a due value on health; especially as it may be attained by dedicating a few hours to the study of it: and surely it must be more agreeable and satisfactory to every person of understanding, to comprehend the reasons for this or that mode of regimen, deduced from established principles, than to rely on the mere *ipse dixit* of an author or practitioner, who, in his dictatorial precepts, may be actuated by prejudice or caprice.

The subject of this chapter will be better understood after a careful perusal of §. 91, p. 192; §. 99, 100, &c. Vol. I. Essay I. p. 222, &c. and Essay on Regimen, §. 27, p. 205; §. 39, p. 224; and §. 49, p. 251.

Infants ought, in the earliest period after birth, to be fed with the milk of the mother alone;

alone; and it is exceedingly to be lamented that women of rank and fortune almost totally abandon their infant progeny to hireling nurses, instead of themselves discharging one of the most necessary and pleasing duties of life.

Spoon meat may be given to them sparingly before the fourth month; and biscuit boiled with water and a little milk, or the crust of loaf, are much preferable to the pith of bread or flour, which are too glutinous, and produce acidities, costiveness, or severe purging. Children ought to be fed very frequently: when they have teeth, a little animal food may be allowed them.

Young people in good health ought to use broths, and a large proportion of vegetable food: water their only drink. From the age of 25 to 55 the quantity of food ought not to be so great as in earlier periods, because the growth of the body having been completed, no more is necessary than to supply the daily waste. If any wines are used, they ought to be light and thin.*

After 55, the quantity of solid foods ought to be gradually lessened, and broths and other liquid foods should make a part of the diet

* See Vol. I. p. 201, &c.

of old age; and the most alcalescent and digestible animal foods, with a moderate proportion of spices, will be beneficial; as the appetite becomes less keen, and the springs of life more feeble and languid at this period. Fermented drinks and generous wine are allowable at this period *only*, to support the vital powers, and keep up the languid circulation.

Women, being more sedentary than men, require a less proportion of stimulating foods; especially if they are strong, and disposed to be of a sanguine habit.

If sedentary and studious men prefer the enjoyment of a clear understanding and a serene mind, to robust health, they must be sparing in the use of animal food and strong drink. If the body is pampered, the powers of the mind are weakened; and as some ingenious men have become gluttons and drunkards, so their intellects have always been proportionably weakened and debased.

§. 66. *Temperament.* The temperaments are described Vol. I. Essay I. p. 222, &c. and it is obvious that the diet ought to be suited to them.

Persons

Persons of a *firm* habit generally establish constitutional vigour by exercise; and as their digestive powers are strong, and the waste of the body considerable, they are apt to indulge too much; but they ought to avoid excess, as their diseases are generally inflammatory and violent. Strong drinks ought to be used with moderation, as they are often the cause of fatal fevers.

In the *delicate* temperament, the vigour of the vital powers and circulation being less than in the firm habit, and the nervous system much more irritable, a moderately stimulating regimen is most suitable to this habit: tea, especially, should be avoided, and strong drinks used sparingly.

Those of a *sanguine* habit should avoid stimulating foods and drinks; and as they labour under an excess of good blood, their foods ought to be chiefly vegetable, their drink water.

If persons of this habit have irritable nerves, which is not unfrequent, especially in young women, the regimen of the delicate temperament should seem to be best suited to this state of the nerves, but the fulness of blood renders it improper and unsafe; for
it

it would not only exasperate the nervous irritability, which is supported by an over-tension of the blood-vessels, but endanger fever.

Persons of a *phlegmatic* habit should use more animal than vegetable food; mustard will be a proper addition, but oily and fat food will dispose to unweildy corpulency: coffee will be preferable to tea; and they may indulge in a moderate use of strong drinks, especially cyder and wine.

Persons of a *dry* temperament, in the younger and middle periods of life, should live chiefly on young meats, fruits, and the acescent vegetables, as their constitutional heat is generally considerable, their humours alcalescent, and their secretions, especially the *bile*, disposed to be acrid: water will be their safest drink; or if they cannot abstain from strong drinks, cyder and small wines will be most eligible, or rather least injurious.

As persons of this habit are sometimes, in the advance of life, disposed to become hypochondriacal, from weakness and depraved sensibility of the stomach and other digestive organs; this change of the constitution, which is often connected with irregular gout, will

will require a change of regimen; and a moderate use of stimulating foods and drinks may become not only proper but necessary.

These remarks on temperamental regimen, though intended chiefly for the information of the young practitioner, may easily be comprehended by every other intelligent reader, who has perused Vol. I. Essay I. p. 224.

§. 67. *Way of Life.* With respect to the accommodation of diet to the way of life, the necessity of this is so self-evident, that it may only be remarked, that the diet of a ploughman would oppress the digestive and vital organs of a sedentary person; and that a spare diet, chiefly of vegetables, would not support a labouring man.

§. 68. More animal food is required in cold than hot climates; in winter and spring, than in summer and autumn. With respect to drinks in this temperate climate, fermented drinks and ardent spirits ought to be used very temperately in all seasons. From the Northern nations being much addicted to strong drinks, and their having been represented by some of the ancients as producing
a kind

a kind of temporary madness in some of the Eastern countries, it has been perhaps too hastily concluded, that the use of them is improper in hot climates. The abuse of them is certainly improper in any climate; but it is a well known truth to those who have resided in hot climates, that they are there very necessary, especially to those who are exposed to intense heat, for the purpose of sustaining the vital powers and nervous system under its debilitating effects; nor, whatever may have been remarked in the days of *Aristotle*, among the Greeks, who were proverbially *jolly toppers*, have I ever observed the stimulating effects of drunkenness to be more extraordinary in hot climates than in this country.

When a person is melting away in profuse sweats, in consequence of long exposure to the scorching rays of the meridian sun, many very temperate men have found it to be indispensablely necessary to swallow some strong drink, especially punch, even before dinner; as water and lemonade sometimes render the discharge by the skin more profuse, and sometimes suddenly check it, by the action of the cold drink on the nerves of the stomach, and produce fever. A late very respectable friend
of

of mine, who had been a pupil of the celebrated Dr. *Boerhaave*, and long held a high office in one of our colonies, though exceedingly temperate in the use of strong drinks, never failed, after a long mid-day journey, to swallow a glass either of strong wine, or of rum undiluted; and in America, the porters, and others who labour during the heat of summer, being what they call *heat-struck*, have died suddenly, unless they drank a large glass of rum immediately.

§. 69. Two remarks present themselves, which have a direct reference to the subject of preventive regimen, and are very important.

1st. It certainly would be of great importance to have some general test by which we might be warned of the approach of disease. I have already remarked, that so long as we find ourselves *lightsome* and alert, we may be assured that all the functions of the body go on well; but that something is amiss when we labour under a sense of heaviness and depression, and that disease is not very remote. This approach to disease is generally connected with *obstructed perspiration*; and it will be right to enquire, by what error in
U diet,

diet, clothing, &c. it has been produced, that it may be rectified.

2dly. As we swallow our foods by pounds, and our medicines by scruples and grains, much more is to be effected, when we are slightly indisposed, by a regulation of diet, than even by medicine itself. If, therefore, we suspect that we have exceeded in point of diet, or even if we have not, a degree of abstinence for a day or two, and rest, will often remove the uneasy sensations. This is more peculiarly necessary when, according to the vulgar phrase, we have caught a cold; which is always a consequence of obstructed perspiration. The vulgar maxim of nursing a cold, and starving a fever, is very destructive; for though abstinence on the approach of fever may often be necessary; yet with respect to colds it is almost always so, and a *spare* regimen may prevent many fatal consumptions.

C H A P. XII

REGIMEN OF DIET IN DISEASES IN GENERAL.

Reasons why the Principles of Regimen ought to be studied by Invalids, and by young Medical Men—Various Gradations from Health to Disease—Diseases from Excess of Motion—the general Signs of this Excess—Diseases from Defect of Motion—general Signs of this Defect—Why the Signs of these extremes afford the Indications for Regimen—Principles of Regimen more simple than those of Medicine; therefore more intelligible—Lady Doctors the proper Superintendants of Regimen—an essential Difference between Medicine and Regimen—Errors of Writers on Regimen—how Patients killed with Kindness—Effects of Regimen the best Criterion of the Nature of Diseases—An important Hint to Practitioners—Degrees of Regimen.

PROP. XI. THE MANIFOLD DISEASES OF THE HUMAN BODY BEING VERY DIFFERENT IN THEIR NATURE, DURATION, AND TERMINATIONS, THE QUANTITY AND QUALITY OF FOODS OUGHT TO BE ACCOMMODATED TO ALL THOSE CIRCUMSTANCES.

§. 70. **T**O those who have had curiosity and perseverance to study those principles of physiology and pathology, contained in the Natural History, (vol. I.) which

are necessary to explain Regimen as a branch of science, the remaining Chapters of this work will be sufficiently intelligible: to such as have not, they certainly will appear to be somewhat intricate and obscure.

But I flatter myself there will be few such; because the principles of Regimen are much more simple than those of medicine; and it certainly must yield much satisfaction to every person of liberal education, to be conscious, that when they, or their relatives, are affected with disease, they may at least be tolerable judges of what diet may be adapted to their cases; though they may not chuse to enquire into their medical treatment; and this degree of knowledge may be more necessary, as ordinary practitioners often, and physicians sometimes, are more attentive to the use of medicine, than of regimen.

This Chapter being partly intended for the use of young medical men, (for the seniors will rarely deign to confess that they need information) I have entered a little more fully into the subject than otherwise I should have done: But as medical men are taken from the common mass of mankind, and are consequently of different degrees of capacity,
there

there is no reason why persons of liberal education, may not with as much facility as any medical man, attain a competent knowledge of any one branch ; though they may not be disposed to enter so deeply into enquiries of this kind, as to take in the whole circle of the science.

Thus much being premised, I proceed to offer some preliminary remarks.

§. 71. If we place firm health, as it were, in the center, there are various temperamental degrees of it on each side of the scale ; so likewise there are various degrees of disease, which diverge, as it were, from general health ; and tend toward excess or defect of the vital powers. See Vol. I. page 128, 192, &c.

The degrees of excess or defect of the vital powers, or circulation, from the highest point of the scale, or inflammatory fever, to the lowest, or cachexy and dropsy, are very numerous ; and the skill and sagacity of the physician is required to distinguish those degrees for the purpose of prescribing medicine.

But less accuracy is necessary for the purpose of prescribing regimen ; and all that is

required in this case is, a general knowledge of the state of the vital powers, which may be easily obtained by attending to the following circumstances.

1st. When the pulse is strong, full, or both, and the countenance rather ruddy than pale, rather full than shrunk, whether with or without feverish heat or quickness of pulse; whatever be the disease under which the patient labours; the *high* regimen, which comprehends the stimulating foods and drinks, should be used with great caution; as it may increase the disease, by exciting the heart to violent exertions.

2^{dly}. When the pulse is weak, the countenance pale or fallow, and shrunk or bloated; it is probable that the *low* regimen, or the sedative foods and drinks, will be improper, as they will still farther reduce the vital powers, which, from the symptoms, seem to be already considerably below par.

3^{dly}. In regulating the diet and other non-naturals of the invalid or the sick, it is not only necessary that the cause of the indisposition or disease be avoided; but those means used which are contrary to the nature of the morbid cause: This maxim will be understood from the following plain examples.

A is seized with an inflammatory fever from a debauch, violent exercise, or any other stimulating cause; it is not sufficient that he merely avoid these causes in future; but he must use those means which are recommended in the next chapter.

B, whose appetite and digestion are weak, is afflicted with a flatulent colic, from the use of particular vegetables; these should not only be avoided; but moderately stimulating foods of easy digestion should be substituted.

C, inhabiting a house in a low damp situation, has frequent returns of ague, low irregular fevers, or other complaints, which shew that the vital powers are weak; he ought to remove into a situation that is high and dry, and mend his diet.

D finds, that on almost every exposure to the external air he is subject to rheumatic or gouty pains; his confining himself to his house or chamber to avoid the evil, will be improper; but he must make such an addition to his clothing as may enable him to use that exercise abroad, which is indispensibly necessary to afford him tolerably firm health.

4^{thly}. A mere change of regimen, with respect to one of the non-naturals only, (diet,
for

for example) is not sufficient; but a due attention ought to be paid to all the others, so that there may be a conformity between the whole; and hence the great advantage of understanding the principles of regimen, which can only be attained by a knowledge of the philosophical and medical history of the human body and mind.

§. 72. By attending to the simple and obvious rules and maxims laid down in the preceding sections, and a careful perusal of the following chapters, every invalid of common understanding may be tolerably qualified to regulate the non-naturals; and here the *Lady Doctor* will be in her proper province; in which, as *superintendent of regimen*, she may render most essential service to all her connexions, without incurring the danger of doing mischief; which must ever be the case in every step she may take as a prescriber of medicine, there being a thousand circumstances with respect to the latter which require a degree of discrimination for which she is not qualified. With respect to diet of the invalid and sick, it will be proper to guard them against one error into which they

they are very apt to fall, which is, their solicitude about nourishing the sick with *good* things; for by thus oppressing the weak organs with foods which they cannot digest, thousands may literally be said to have been *killed by kindness*.

I shall here take occasion to offer a general remark, of which the young practitioner may make an important use.

It has already been remarked,* that the particular nature of diseases is frequently so obscure, that the utmost sagacity cannot discover it; and in such cases, it is evident, that it is at least an even chance that medicines of any power may injure rather than benefit the patient. In such a state of uncertainty, it will certainly be prudent to give, in the form of medicine, what cannot produce any essential change; and in the mean time remark, very accurately, the effects of diet, which will often afford the safest clue to the *general* nature of the disease; and which being ascertained, we shall have advanced one step nearer to a knowledge of its *particular* nature.

* Difficulties of studying Medicine, Vol. I. page 261, &c.

When the practitioner is called to a patient under the circumstances alluded to, if he find him under the use of a stimulating diet, it will be right to try the effects of a change; not only by abstinence from such foods and drinks, but a moderate use of the *low* regimen. If this change seem to alleviate the symptoms, it affords a proof that the heating stimulating medicines are not indicated.

On the other hand; if the patient has either been habitually abstemious, or has adopted the low regimen since the commencement of the disease, without any abatement of the complaints; a moderate trial of a more generous diet, and the use of strong drink, if it agrees, will indicate the use of warm stimulating medicines.

Thus, as it were, feeling his way, by means of regimen of diet, and the correspondent non-naturals, he will avoid that hazardous embarrassment which a precipitant use of remedies will often produce; because we cannot always distinguish the distress produced by disease, from that disturbance which proceeds from the operation of medicines. By this precaution of relying chiefly on regimen, he will have the satisfaction of knowing,

knowing, that if he cannot render his patient the most essential service, he is not likely to do him very essential injury.

This hint may also be useful to the intelligent reader, who, if his medical prescriber shall omit to direct his regimen, may, from the general rule now laid down, be tolerably well qualified to regulate it himself; always remembering, that a change of that mode of living under which the disease commenced, whether it was, or was not the cause, will be a much safer means of checking its progress than by tampering with magnesia, aloetic and analeptic pills, &c.

§. 73. Before we proceed, it may be proper to point out, in one view, the different degrees of regimen which will be recommended in the following chapters: These I divide into the *high*, the *low*, the *moderate*, and the *alterative*.

1st. The *high stimulating*, cordial, or dispensing regimen, comprehends the use of highly-flavoured animal foods, (sometimes salted) in preference to the insipid, slippery, mucilaginous; and those seasoned with cayenne pepper or the spices, and rather
roasted

roasted or broiled, than boiled, accompanied with the use of fermented drinks, and generous wines, warm cloathing and covering, exercise accommodated to the strength, early rising, and a very moderate proportion of sleep.

2dly. The *low sedative*, or reducing regimen; being the opposite of all these, will be treated of in the next chapter; and is that which is suited to those diseases in which the vital powers are exerted to a degree considerably above the natural standard.

3dly. The *moderate* or spare regimen lies between those extremes, and is that which is best adapted to that state of the body which is frequently met with in slight indispositions, low fevers, not of the hectic kind, invalids, and convalescents. But this regimen cannot be ascertained or described, as it depends upon a variety of circumstances; but it is ever to be held as an invariable maxim, that it be more sparing than what the patient has been accustomed to in health.

4thly. The *alterative* regimen is that which consists in abstinence from the use of animal foods and strong drinks; and in a persevering use, perhaps for life, of milk, vegetables, and light puddings.

§. 74. As we are now to consider the employment of regimen in diseases, it may be proper to recollect the distinction which has been established (page 147) between medicine, so called, and regimen. Dr. *Arbutnot*, and some other authors on diet, have been very minute in ascertaining the medical powers of diet, and have arranged the articles of it into classes corresponding with those of medicine. Some articles, which are in daily use as foods, have medicated powers, but they are very flight; and there is something ludicrous in the idea of ploughmen, porters, and chairmen, swallowing daily, cephalics, eccoprotics, diuretics, and antiscorbutics, under the guise of beef and mutton, turnips and cabbage, ale and porter; an idea, by the bye, which these honest fellows would not much relish; but with more truth it might be alledged, that the imaginary invalid makes Anderson's and James's analeptic pills a part of his *daily bread*. The influence of fashion is wonderful; in the last century, Doctors converted food into physic; in this the patient converts physic into food.

C H A P. XIII

REGIMEN IN ACUTE DISEASES.

Indications for Regimen in high Fevers—such Fevers how prevented or checked in the beginning—First Indication how complied with—The Means pointed out by the Second Indication—Hints to Mistresses of Families—Hints to Practitioners on some very important points of Practice.

PROP. XII. MORBID AFFECTIONS OF THE VITAL POWERS, WHICH PROCEED FROM, OR ARE ACCOMPANIED WITH, VIOLENT INCREASE OF THE CIRCULATION, *i. e.* HIGH FEVER, NECESSARILY REQUIRE A SEDATIVE REGIMEN; A DUE REGARD BEING ALWAYS HAD TO THE VITAL INDICATION.

AFTER what has been said in the preceding chapter, and in Vol. I. Essay 1st. page 144, 192, &c. the following remarks will be sufficiently intelligible.

§. 75. The

§. 75. The indications of regimen are,

1st. To avoid whatever may increase the violence of circulation ;

2^{dly}. To adopt that regimen which may be most conducive to counteract or mitigate the morbid affections ;

3^{dly}. To support the powers of life.

§. 76. This first indication is satisfied by abstaining from all the stimulants, Table II. Class 1st and 3^d, and the condiments and strong drinks, and avoiding exercise, strong light, noise, and the stimulating passions.

Here it may be remarked, that many fatal fevers might be prevented, or checked in their commencement, were the rules laid down at the end of Chap. IX. attended to, and joined with the regimen laid down in this and the second indication.

§. 77. The second indication points out the reverse of all these, viz. The use of the sedative drinks, and liquid vegetable foods ; such especially as are not very nutritive, and bathing the legs in temperately warm water. The instinctive aversion of the patient to animal foods, and the desire of cooling sub-
acid

acid drinks, point out clearly what ought to be done, and what avoided.

Here I beg leave to offer a few hints to mistresses of families, who cannot discharge a duty more worthy of their sex, whatever their rank may be, than by superintending the regimen of the sick, whether their relations, servants, or their indigent neighbours, and taking care that the good effects of diet and medicine be not counteracted by hot rooms, heavy bed-clothes, close curtains, and heating drinks.

1st. *Colds* and *Coughs*, which are very frequent in this unsteady climate, very often terminate in fatal consumption by neglect or mismanagement. The regimen indicated above, *1st* and *2d*, ought to be rigidly adopted; and as medicine may be necessary, if the starving plan does not succeed, I would just hint to the apothecary, that early bleeding and purging would be more conducive to the safety of the patient than saline draughts, and spermaceti mixtures.

2dly. *Pleurisies* and *rheumatic fevers* may often be checked or much mitigated by the low regimen; *agues*, on the other hand, require a generous stimulating diet in the intervals

Intervals of the fits, without which the bark will often fail; and apothecaries do not always attend to this circumstance.

3^{dly}. Many patients in the small-pox and measles have been destroyed by a heating regimen, and the exclusion of cool air.

4^{thly}. Many very useful members of society have been lost by the mismanagement of women in child-bed.

As the body is very irritable during that state, and there is a strong disposition to fever; hot rooms, and stimulating foods and drinks, should be most carefully avoided.

5^{thly}. Cleanliness is of the utmost consequence in all fevers; and care ought therefore to be taken, that their sick servants and indigent neighbours be enabled to change their linen and bed-clothes frequently; and they should be enjoined, if not very weak, to quit their beds and rooms for a short time daily, that both may be ventilated.

6^{thly}. Profuse discharges of blood may take place, and endanger life, before medical assistance can be obtained.

In such cases, the patient ought to be laid upon the bed, and very slightly covered; small and frequent draughts of water, as cold

as possible, are to be swallowed ; the doors and windows thrown open ; and linen cloths dipped in the coldest water and vinegar should be often applied to the parts that are nearest to the bleeding vessels.

If the patient faints from loss of blood, he (or she) ought not to be immediately roused by smelling bottles, or other stimulating means, because the blood, by coagulating in the ends of the bleeding vessels, will be the most effectual means of stopping the discharge. Though some person may be at hand who can bleed, if the patient has been in a weak state, and the discharge has not been produced by some violent blow, bruise, or fall, and the pulse is low and weak, bleeding may increase, instead of checking the discharge.

§. 78. The explanation of the 3d or vital indication is chiefly intended for the young practitioner ; who is requested to pay due attention to it.

So long as the inflammatory stage of the disease continues, the low or sedative regimen ought to be pursued very steadily, as the only means of subduing the disease.

But

But there is a certain point beyond which the sedative regimen ought not to be extended; that is, when the vital powers are so much reduced, either by the violence of the disease, the sedative operation of remedies, or the low diet, that life itself would be endangered by pursuing that plan. The third or vital indication takes place at this period; and as the management of this indication is a very nice and delicate point, much skill is required to avoid error.

1st. Practitioners may carry the reducing plan too far, and the patient either sinks entirely, or, in attempting to cure the fever, he is disciplined into a dropfy.

2^{dly}. But it more frequently happens that sufficiently powerful remedies, and an adequate regimen, being neglected in the beginning; the disease gains ground very rapidly, and the practitioner, alarmed by the increase of weakness consequent thereof, rushes precipitantly into the use of highly stimulating remedies, before the inflammatory stage of the disease has subsided; and overwhelms the powers of life, by superadding one stimulus to another. The celebrated Dr. Sydenham tells us, that a patient being apparently so

weak that he was doubtful whether he should bleed him or not, he ventured to open a vein; the pulse rose, and the strength increased as the blood flowed. Had the Doctor, by a false estimation of the real cause of the extreme weakness, ordered a cordial draught, instead of bleeding, his patient must undoubtedly have died.

3dly. Even when stimulants may be necessary to support the strength, instead of a cautious and temperate use of broths and wine, hot stimulating medicines are generally and very injudiciously preferred.

§. 79. In my remarks on the different kinds of fever, Vol. I. Essay I. page 146 to 150, I observed that some of them, either from their commencement, or in the advanced stages, were what are termed *low fevers*; from the pulse being weak and very quick, the heat unsteady and unequal, and the strength much depressed. Under such circumstances, whatever may be the nature of the fever, remittent, intermittent, nervous, putrid, malignant, &c. moderately stimulating foods and wine, either alone or diluted, will be much preferable to cordial
and

and heating medicines. But as I have remarked in Essay I. page 152, such low fevers are frequently accompanied with inflammation of particular organs, as of the brain, lungs, liver, stomach, intestines, or mesentery; a contra-indication arises, which is exceedingly perplexing; for, whilst the great debility of the vital and nervous systems demands the use of stimulants; they are contraindicated by the local inflammation, which renders these fevers much more fatal than their general nature. In such complicated cases, the use even of stimulating diet ought not to be carried farther than just to support the constitutional powers to such a degree, as may enable it to give efficacy to the necessary remedies.



C H A P. XIII

REGIMEN OF DIET FOR INVALIDS AND
CONVALESCENTS.

*This Chapter intended for the Information of
Valetudinarians—Invalids what; Connection
of their state with particular Temperaments—
Cachexy what—Imaginary Invalids, Advice
to them—Convalescents what—Advice to the
Ladies concerning the Management of them—
Diet of Invalids and Convalescents; Breakfast,
Dinner, Supper.*

PROP. XIII. REGIMEN OF DIET ADAPTED
TO INVALIDS AND CONVALESCENTS OUGHT
TO BE SUCH AS MAY NOT OPPRESS THE
WEAK ORGANS, DUE REGARD BEING HAD
TO THE STATE OF THE VITAL AND DI-
GESTIVE ORGANS.

THIS chapter is chiefly intended for the
use of those who undertake the ma-
nagement of their own regimen, and interpose,
too frequently, and always very improperly,
the use of remedies, either on their own sug-
gestion,

gestion, or of those who are very little, if at all, better qualified to direct on so important an occasion. I have already, p. 290, made some remarks on the use of medicines as preventives of disease.

§. 80. Invalids or valetudinarians are either such whose constitutions have always been weakly;—or such as have been brought into this state by former diseases, from which they never perfectly recover;—or such as gradually decline in their state of health, and remain in a state verging toward disease, without labouring under any disease to which a name can be given.

I shall make some remarks on each of these.

§. 81. The state of the first kind of invalids may be understood from what is said on the delicate temperament, Vol. I. Essay I. p. 225; and the regimen best adapted to this state, from what is said p. 293 of this volume.

Those whose health has been impaired by former diseases, have generally a weak and irritable state of the nerves, and therefore in many respects resemble the former.

Persons

Persons who come under the last head, are such as are said to labour under a *cachexy* or bad habit of body; and as this state seems to be only an increased degree of the phlegmatic temperament, (Vol. I. Essay I. p. 226, &c.) therefore the regimen of diet for this habit (p. 244) will be well adapted for cachectic patients, whose pale, fallow, bloated, and sometimes jaundiced complexion, shortness of breath on the least motion, and a tendency of the ancles to swell towards evening, shew that the vital powers are languid, the organs in a torpid state, and that there is a strong disposition to palsy, dropfy, and a variety of other chronic diseases; which may be prevented by a *moderately* stimulating diet, and such a degree of muscular exercise as may give vigour and energy to the languid vital and nervous powers; ever remembering, however, that invalids of every description ought carefully to avoid every kind of excess, by which the digestive organs may be weakened, and the vital and muscular powers overstrained.

There never, perhaps, was a period in which the number of invalids was so great in this kingdom, as at present, owing to a variety of causes.

But the most unhappy of the valetudinary tribe are those who labour under imaginary diseases, are “sick by way of amusement, “and melancholy to keep up their spirits;” *and whose chief comfort is the pleasure of complaining.*

Persons of this description, irritable, timid, and anxious, by becoming the dupes of selfish practitioners, or ignorant quacks, fall into the very diseases they so much dread, and drag on a miserable life, the victims of vain fears, and absurd credulity.

To such miserable beings I earnestly recommend a serious perusal of the very ingenious Mr. *Colman's* farce of the *Spleen*; where, with much truth, wit, and humour, the whimsical invalid will find himself admirably described in the character of *Doily*.

Where there is no real disease, it scarcely need be observed that there can be no room for any other remedies, besides what a generous diet, moderate exercise, and rational employment of the mind, enlivened occasionally by inoffensive amusements, will afford them; and it will not, I trust, be deemed an *empirical* puff, if I recommend for their information and amusement, the “Natural
“History

“History of the Human Body and Mind,” which will guard them against those ill-grounded apprehensions which are often created, or at least nurtured, by the present fashionable reading of popular treatises on the practice of physic; and are confirmed by ignorant or unprincipled men, to the destruction of health and peace of mind, and, not unfrequently, the ruin of fortune.

Many deplorable instances of this kind occur almost daily, of unhappy hypochondriacs, who having run the gauntlope of regular and empirical practice, and being disappointed in their expectations from *specific and infallible remedies*, have at length recourse to the brandy bottle; and a disease, at first imaginary, terminates in incurable palsy or dropfy.

§. 82. *Convalescents* are such persons as are recovering from disease. As the medical man often leaves his recovering patients without laying down such rules of regimen as may secure them against relapse; this business comes immediately under the cognizance of the *Ladies*, and it is recommended to them that they restrain the sick, especially servants
and

and indigent neighbours, who are very apt to indulge a keen appetite after fevers, from passing suddenly from a spare and sedative, to a full and stimulating diet. Many lives have been lost for want of due precaution in this respect; for the organs being left very irritable by disease, a sudden stimulus will easily rekindle a fever or inflammation.

I shall now proceed to make a few remarks on the diet of invalids and convalescents.

§. 83. *Breakfast.* The ordinary articles of breakfast, used by almost all ranks of people in this kingdom, are, tea, bread and butter.

From what I have said on the properties of tea, it is evident that bohea is preferable to green, as being less sedative; and with a considerable proportion of cream and sugar, its bad effects may, in some degree, be counteracted.

Some persons have substituted an infusion of baum or sage, which are weak aromatics, and probably preferable to the Chinese plant; but I totally disapprove of the practice of drinking either these, or chamomile tea, as a breakfast; a long and constant use of aromatics or bitters being very injurious to the stomach.

It were better if milk and water sweetened were used, and rather cold than hot, gradually increasing the quantity of milk, until the stomach can bear it alone, without sugar; for wherever there is a tendency to acidity, as is almost always the case in the stomach of invalids, sugar certainly increases it.

The objection to milk is its too speedy coagulation in the stomach, in which case the colostrum, or curd, becomes so hard and tenacious, as to be scarcely soluble. Milk certainly does coagulate in every stomach; but when the coagulation goes on slowly, a portion of the grosser part remains suspended in the whey, and passes the lacteals, and the remainder is less firm and viscid. Some medical men have recommended a small portion of brandy or rum to prevent too speedy a coagulation; but such an addition is improper, and may create a bad habit. In a few cases, I have advised a small proportion of chalk or magnesia, either taken in a little water about a quarter of an hour before breakfast, or mixed with the milk, gradually lessening the quantity as the acidity of the stomach is subdued.

It

It is much to be regretted, however, that many invalids cannot bear milk as an article of diet; in such cases whey or butter-milk may be substituted. A gentleman who had been put upon a milk diet, and was recovering from a chronic diarrhœa, having drank some bad mulled wine at an alehouse, and his milk on his return, was seized with an inflammatory constipation of his bowels. By the use of purgatives he not only discharged by vomit, but by stool, many large balls of coagulated milk, which had probably been accumulating for weeks; but his former diarrhœa recurred, and, after several weeks, destroyed him. The reader is referred to some remarks on milk, Chap. V. §. 21.

Coffee is used by some persons as a breakfast; but though many medical virtues have been attributed to it, yet its predominant quality, as a sedative, renders it objectionable, unless a considerable quantity of cream or milk be added to it.

Chocolate rarely sits easily on the stomach of invalids, owing to the indigestible quality of all of the nut kind; yet when used very weak at first, and the proportion of the nut gradually

gradually increased, I have known it to sit at length very easily: it is very nutritive.

New bread is certainly improper for invalids; biscuit, or bread one or two days old, and toasted, is preferable; and the household or the standard breads are better than that made with the finest flour. Doctor *Cadogan's* severe interdict against bread is not well founded: see Chap. VI. §. 31.

What shall I say to butter, as an article of breakfast? Medical men have been almost unanimous in condemning it as an improper article of diet for invalids. Foods of an oily nature are certainly not the most easy of digestion, that is to say, they remain longer in the stomach than some other foods; but as butter certainly checks that fermentation which is prevalent in four stomachs, it may be of use; and if it contributes to the retention of the food in the stomach, the digestion, so far as depends on this organ, will be more compleat; and I believe one of the principal evils attending the indigestion of invalids, is, the foods being retained too short a space of time in the stomach, partly from its weakness, sometimes from excess of irritability. Good fresh butter, therefore, with a moderate

rate

rate proportion of salt joined with it, may, I think, be used at breakfast, especially with tea; and those who think it is rendered rancid by heat, though I am not of that opinion, may use it with cold toast. It will certainly be unnecessary either with chocolate or milk. See Chap. V. §. 21, some remarks on butter.

Some invalids, being incommoded by all the liquid articles of breakfast enumerated above, have been solicitous to find substitutes.

One Gentleman, lately my patient, ate a bit of cold meat with mustard, and found it sat very easily, though it has not agreed with others to whom I have recommended it; others have found a crust of bread with a glass of cold water to be preferable to any other; and some have preferred a little plain soup with toast. In the wine countries, grapes and bread are often used as breakfast; and where the stomach will bear fruit, it would be a proper breakfast for invalids: see Chap. VI. §. 29, p. 210. The invalid may make his election, after trying all; nor can there be any objection to animal food for breakfast, if it does not incommode the stomach.

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I have remarked that invalids have, in general, wished to avoid eating between breakfast and dinner, on the supposition that it would spoil their appetites for this grand and favourite meal. But as such persons eat very little at a meal, and few can bear fasting from ten in the morning to four or five in the afternoon, especially if acid abounds in the stomach, a little soup with dry toast may be taken about one or two o'clock. I have seen very good effects from this practice being adopted by invalids. By taking food frequently, the stomach is less oppressed, and performs its office more compleatly; the fever of digestion is avoided, and too much chyle is not sent into the circulation at once, which, by its stimulus, excites a kind of temporary fever, which certainly retards the nourishment of the body; and the slight repast I have recommended, prevents repletion from excess at dinner.

§. 84. *Dinner.* From the remarks already made, the reader will conceive, that when invalids labour under diseases accompanied with weakness and acidity of the stomach, I shall recommend the most alkaline
lescent

lescent meats as preferable for the dinner meal; and those rather roasted than boiled; as their alcalescency is increased by this mode of dressing those foods, and their nutrition is more concentrated. This injunction is peculiarly necessary for persons who have gout flying about them, and cannot fix it; for by giving a spur to the constitution which creates, a degree of inflammatory disposition or diathesis, a regular fit may be procured.

A general observation of great importance occurs here. In the account given of the process of digestion, it was remarked, Vol. I. Essay I. p. 161, that a considerable quantity of air is extricated or set loose by the warmth of the stomach, and the dissolution of the food. Two important inferences are to be drawn from it: *1st*. That the air, expanded by heat, adds very much to the bulk of the contents of the stomach, puffs it up, stretches and weakens the coats of this organ, very much interrupts digestion, and renders it very imperfect. *2^{dly}*. That as dinner is the chief meal, and we not only swallow more at that than any other, and of such a mixture of animal and vegetable foods as create, or rather part with, much air; all persons, those

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especially

especially who have weak stomachs, ought to be cautious of using foods which afford much air; and moreover, as all foods afford more or less, they ought to leave off eating before there is any sense of fulness, otherwise the air, in the course of digestion, will oppress exceedingly, and from want of due caution in this respect, many persons in health weaken their stomachs, and many invalids have their digestive powers irreparably destroyed.

In this opinion, therefore, I dissent from Dr. *Cadogan*, who not only recommends young meats, tripe, and other insipid mucilaginous foods, so much under-boiled as to be half raw; but totally reprobates all animal foods, which are stimulating and alcallescent in their nature, or are rendered so by cookery, pickling, preserving, or high sauces; and yet the Doctor is so inconsistent, as to recommend broiled meats, which undergo a greater change by the force of fire in this way, than by any other mode of cookery.

I entirely accord with the Doctor in opinion, that where the digestive powers are sufficiently vigorous, neither salted or smoaked meats or pickles are necessary or beneficial but when the digestive powers are weak
which

which I suppose to be the case, I have known the most beneficial effects from indulging patients occasionally with these relishing morsels, whose languid appetites and stomachs would have loathed the Doctor's insipid regimen.

The habit of drinking tea or coffee in the afternoon is so general, that even invalids consider it as indispensable. It were better, however, to avoid these beverages, or drink only one dish of either, provided no apparent bad effect be experienced from it.

§. 85. *Supper.* As invalids ought to take food frequently, I think there is too long an interval between even a late dinner and a late breakfast next day, (generally sixteen hours) and therefore a slight supper of weak soup, milk, if it agrees, salad, or fruits, may obviate that sense of emptiness and languor which the sick often experience from long fasting.

Some invalids have passed a more comfortable night, after supping on a few oysters or other shell-fish; and last summer I had a patient labouring under a hectic diarrhoea, who, tired of slops, insisted on being in-

dulged with prawns, and found himself much benefited by the exchange.

§. 86. It often happens that the most rational indication for the regimen of invalids, is to dispense with all regimen.

A lady lately returned from a hot climate, was here three months under the care of an eminent physician. The Doctor precluded her from the use of such foods as she could have relished, and was so rigid in confining her to a diet which she loathed, that being in danger of being starved, she dismissed her physician. During a considerable part of the time this lady had been in Bath, she had laboured under a severe harsh cough, and an irregular fever, on which account she was forbid the use of the Bath waters, and was put under a course of James's Powder, and other remedies, without relief. When I was consulted, I gave her an unlimited permission to eat and drink what she pleased, but recommended a trial of ham and salted tongue, and Cayenne pepper in her saucers; and as I conceived that her cough and fever were the effects of weakness and irritability, advised her having again recourse to the Bath waters;

her

her fever is gone, her cough has ceased, and she is rapidly recovering appetite, flesh, and strength.

And here it may not be improper to remark, that people in general, and even some of the profession, often make a very erroneous estimate of the relative digestibility of foods in particular cases. How often is the miserable hectic patient crammed with heavy glutinous stews, rich broths, and indigestible jellies, by which the decayed lungs are oppressed, and the fever exasperated.

There seems often to be a kind of *fashion* in the *diet* of invalids, as well as in their *diseases*. A fashionable physician invented beef-tea, and, for some time, beef-tea became all the fashion. Another fashionable Doctor having prescribed oysters and porter to a lady of rank, they superseded beef-tea, and became quite the ton.

With respect to drinks; if moderately stimulating foods are in many slow diseases as indispensibly necessary as stimulating medicines, it would be absurd to restrain the patient from a moderate use of stimulating drink.

The choice must depend on its effects. Wines of all kinds turn sour on the stomachs

of many invalids, and porter has been substituted with advantage; many, however, cannot bear any fermented liquors, and in this case, one or two table spoonfuls of brandy, diluted by eight or ten times the proportion of water, may be preferable, as it corrects acid fermentation.

The objection against the use of this drink, that persons are apt gradually to increase the proportion of the spirit, until they become habitual dram-drinkers, militates equally against excess in the use of the fermented drinks; for it will not be denied, that there are many beer and wine sots, as well as tipplers of brandy; the objection is to quantity rather than quality; for we know that brandy is generated by the fermentation of all strong drinks, besides what is added to wines, either to preserve them, or for the purpose of adulteration; and therefore it seems rather to be more eligible to dilute what we know to be old spirit with pure water, especially as we may thereby obviate many of the consequences of imperfect or depraved digestion.

Candour, however, obliges me to caution invalids against the use *even of diluted spirits*, if their stomachs will bear fermented drinks;
for

for though I never knew any bad effects from their use, yet a very eminent physician of this place, who has had a much longer and more extensive experience of Bath cases than I have had, has assured me that he has known several instances of persons becoming fots by the use of rum or brandy and water, prescribed by their physicians, by gradually increasing the proportion of the spirit; and that the late *Dr. Fothergill*, who was among the first who gave sanction to this practice, declared, some time before his death, that he repented of having done so, from the unfortunate habit some persons had acquired by it.



CHAP. ~~XIV.~~ XV

REGIMEN OF DIET IN SLOW DISEASES.

Difficulty of rendering this subject intelligible to every class of Readers—Regimen to be adapted to the nature of the Disease simple or complicated—Diseases of the first Class require a Stimulating Regimen—Exception to this Regimen in certain cases—A Hint to the Ladies—Nature of the second Class of Diseases illustrated—Examples of the difficulty of distinguishing the first and second Classes from each other—Indications of Regimen in Diseases of the second Class—Important Hint to Practitioners—Exceptions to the general Indication, from Difficulty of ascertaining the general nature of the Disease; the state of the Stomach and Bowels; habits of Life—Dr. Cadogan's Rules of Diet erroneous—State of the Vital Powers—Experimental Conviction that low Regimen is improper—Necessary distinction of slow Fevers—Remarks on the use of Bath waters—General Remark.

PROP. XIV. REGIMEN OF DIET IN SLOW DISEASES MUST BE ADAPTED TO THEIR NATURE, PROGRESS, DURATION, AND DEGREE; DUE REGARD BEING HAD TO THE STATE OF THE VITAL POWERS, THE HABITS OF LIFE, AND OTHER ESSENTIAL CIRCUMSTANCES.

§. 87. **T**HIS proposition is very extensive, as it has a reference to a multiplicity of diseases. In a work of this kind, which is to be accommodated to the comprehension

comprehension of the Philosopher, the Lady-Doctor, the Medical man, and the Invalid, it must be a very difficult task to render it intelligible to all.

Simplicity of description and explanation, which would be best suited to the capacity of ordinary readers, would not be sufficiently scientific to gratify the curiosity of the philosopher, nor so accurate and explicit as to contribute to the information of professional men. A middle course has therefore been taken in this and the Natural History; and I flatter myself that no part of either of these works can be unintelligible to any person of cultivated understanding, who shall peruse them with tolerable attention.

To avoid repetitions, I shall occasionally refer to Volume Ist, or the Natural History, and the reader is requested to give the Natural History a careful re-perusal, especially from page 128 to 155, and from 192 to 215,* before he enters on this chapter.

I proceed now to consider the different parts of the proposition in due order.

* I have already observed, and to avoid mistakes, I now repeat, that when I refer to Essay I. or Vol. I. I mean the Natural History;—when I refer only to particular pages or chapters of Vol. II. I mean the Medical Cautions.

§. 88. *The Nature of Slow Diseases.* These may be simple, or more or less compounded, according as the simple affections, of which the disease is composed, are few or numerous. We shall begin with the most simple, and proceed to the most complicated.

1st. Disease may consist of one simple morbid affection, viz. *weakness* of the vital powers and circulation; and from the necessary dependance of all the other organs and functions on the vital organs, and circulating powers, they must necessarily partake of this weakness. But no part of the system is so intimately connected with the vital powers as the nervous; and therefore weakness of the former is necessarily accompanied with excess, defect, or a depraved state of sensibility, and corresponding affections of the muscular powers.

This, which is the most simple morbid affection, or general disease of the two grand systems of the machine, may be understood from what is said Vol. I. page 8, 18 to 22, 24, 28, 49, 128, 137, No. 2, 192 to 203; and from what has been remarked Vol. II. (Medical Cautions) Chap. XI. it will be evident that this morbid weakness of both
systems

systems is only an increased degree of the lax and delicate temperaments, and of the valedudinary, convalescent, and cachectic states of the body; the signs of which see p. 302.

In this state, a moderate use of the high stimulating or cordial regimen, Chap. XI, is indicated, for the purpose of increasing the vigour of the vital powers, the tension of the relaxed nerves, and the discharge by insensible perspiration; the most important of all excretions; as it is the first which is generally perverted in diseases; and as the restitution of it is the most certain means and sign of recovery from disease.

But though the stimulating and strengthening regimen of diet is, in general, indicated in the diseases of the first Class, there are some exceptions.

Nervous women are sometimes full of blood; and hysterical and epileptic fits proceed, in this case, from over-tension of the nerves; and as stimulating diet, or cordial medicines, would increase the evil, so a spare diet will be the most certain means of relief.

Palsy, as connected with great weakness, and even insensibility of the nervous system, may be deemed a disease of the first Class;
and

and therefore requires a stimulating regimen ; but there are species of palsy in which it would be very injurious ; such, for example, as proceeds from apoplexy, or take place in persons of a very full habit.

Hence it is that in these and various other instances, many dangerous mistakes are committed by those who are ignorant of medical principles ; who consequently have not a clear and comprehensive view of all the circumstances upon which the indications of medicine or regimen ought to be formed.

In the following instance, also, errors have frequently been committed, from an inability to distinguish the different circumstances which may accompany the same disease.

Thus, if a person, *even* of a weak and relaxed constitution, were to be seized with a very profuse discharge of blood, there would be hazard in giving wine and cordials, because the stimulus would increase the discharge, even to the loss of life ; but so soon as the discharge abates or ceases, a gently stimulating and strengthening diet will be the best means of preventing relapse.

This hint is addressed to mistresses of families, as the cases just mentioned often come
under

under their cognizance; and this remark, and what is said Chap. XII. merit their serious attention.

2dly. Disease may consist of various morbid affections combined, and become what we term complicated; as shall be explained under the next section.

§. 89. *The Progress of the Disease.* Slow disease often commences by such insensibly small changes, or deviations from health, that it is frequently formed, before the patient is apprized of his being in a bad state of health.

When it appears in its simplest form of general weakness, its progress toward a more complicated disease is more or less slow according to a variety of circumstances.

The circulation being languid in this first stage, it becomes gradually irregular; the secretions and excretions particularly partake of this irregularity, and various impediments or obstructions take place in the different organs.* This change is explained, Vol. I.

* The following remarks, and those of Vol. I. Essay I. on this subject, are confirmed by dissections, and the observations which occur in MORGAGNI *de sedibus et causis morborum per anatomen indagatis*.

page 205, No. 4; but as it is of importance that the young medical reader should clearly comprehend this branch of pathology, I shall further illustrate it by a plain example.

A. A lymphatic gland of the neck is not discernible in health. But if more lymph be deposited into its cellular cavity than is conveyed from it; (see Vol. I. page 172, 181) it necessarily increases in size, so as to be both seen and felt. This is the commencement of obstruction; and it is evident, that as the blood vessels which pass through the enlarged gland must be more or less compressed, the passage of the blood through them must be interrupted; and as diseased glands often acquire a schirrous or almost stony hardness, their nerves also must be so pressed upon as to become insensible; and, by this means, the communication of the heart and brain with the blood vessels and nerves of this gland, is more or less interrupted. The swelling of this single gland, by determining the blood it could not receive, upon the next, necessarily produces an enlargement of others; and thus the evil is extended.

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What happens in one gland, the changes of which are obvious to the senses, may and does happen to thousands of others; and as secretion takes place in every organ, and indeed every point of the body; and almost all of them are supplied with nerves; it may easily be conceived that the obstructions may become so universal, as at length totally to put a period to sensation, circulation, and life.

B. The next, and a very frequent step in the progress of a complicated disease, is inflammation. The lymphatic gland, as happens in scrophula and other diseases, sometimes becomes red, painful, and more enlarged, and matter is formed which is discharged by an open ulcer; and it may even gangrene or mortify. Every other organ is liable to the same morbid changes; and in this way schirrus degenerates into cancer.

C. When obstructions take place in one or more important organs, the circulation through them being impeded, the fluids, like a river dammed up, are determined in a larger proportion on the secretory and excretory organs; hence spitting of blood from tuberculous obstructions of the lungs; dropfy
from

from schirrous enlargement of the liver, &c. See Vol. I. §. 93, p. 203; No. 1, 2, 3.

D. Sometimes the impediment takes place in the blood vessels, as is obvious in the swelling of the hæmorrhoidal veins, commonly called the *Piles*; the same may happen from polypus or ^{aneurism} ~~aneurism~~ in the heart and large blood vessels; and as piles burst when distended with blood, the same happens to the heart and large arteries, and the patient is instantly deprived of life.

E. It may easily be conceived that when all the other organs and functions of the body are so disordered, that the digestive organs cannot remain sound; they are therefore weakened in various ways and degrees, explained Vol. I. page 211; and what is said Vol. I. page 201, will account for the loss of flesh and strength in slow diseases.

§. 90. *The Duration and Degrees of Slow Diseases.* Having briefly traced the progress of a slow disease from simple weakness through the different stages of complication, it may easily be conceived that the increase of the disease must be in proportion to its duration; each morbid affection becoming not only
more

more exasperated; but necessarily, either from sympathy, or the mutual dependance of all the organs, extending the evil to every other.

Thus, *e. g.* in the hypochondriac disease, at its commencement, weakness and depraved irritability of the stomach and bowels constitute the whole disease; but the circulation being impeded by repeated spasmodic constrictions, the current of blood is determined on particular portions of those organs; obstructions take place, as in the lymphatic gland, and also, from the same cause in the neighbouring, and even remote organs, simple hypochondriacism is changed into melancholy or madness; and on dissection of such persons, the stomach, liver, and mesenteric glands are not only discovered to be schirrous, but we find the evil extended also to the brain and its membranes, in which tumours, and even imposthumations, have been found.

§. 91. The indication of regimen in Class 2d is, to avoid whatever may increase the determination on the obstructed organs.

This indication is grounded on the following circumstances.

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1st. Whatever

1st. Whatever increases the force of the circulation, must also increase the determination or fluxion on the obstructed organ; and not only increase the obstruction, but may even produce inflammation and imposthumation; hence it is that, when cough proceeds from indolent tubercles of the lungs, a stimulating diet brings on inflammation and imposthumation of those tubercles, and the patient dies consumptive; whilst his life might have been saved or prolonged by a low, sedative, sparing diet.

2^{dly}. Many of those complicated diseases proceed from high living; and therefore it should seem that a contrary regimen would be the best means of removing them.

Thus the epicure and tippler, by destroying the tone of his digestive organs, brings on paralytic weakness of the stomach; and an obstruction or schirrus of his liver.

§. 92. It often happens, however, in the management of diseases, that the physician must temporise, and, unable to do what he ought, is obliged to do what circumstances will permit; and certain very urgent contraindications may arise, which may prevent him

him from carrying his plan into execution. As this is a very important subject, I shall consider these contraindications separately.

1st. *The difficulty of distinguishing diseases of the second from those of the first Class, from the similarity of symptoms.* This difficulty is indeed very great; and as the symptoms which indicate obstructions of the internal organs are few and equivocal, we can only guess that the disease belongs to the second Class, when it obstinately resists the power of medicine and diet, and the patient daily loses flesh and strength, under the most judicious treatment. The following examples will shew how far we may be mistaken in forming a judgment of the nature of the disease; and consequently the indication for regimen.

A. [Head-ach, giddiness, and other disagreeable sensations of the head, may be the effects of nervous irritability, or sympathy with the stomach;—or of permanent obstructions of the brain.

B. Sense of anxiety, constriction, and palpitation of the heart, may be purely nervous;—or may proceed from obstruction, en-

largement, ^{*aneurism*} aneurism, &c. of the heart or large blood vessels.

C. Cough, difficulty of breathing, and sense of anxiety, may be either nervous, symptomatic, or the effect of gouty or other subtil acrimony, irritating those organs;—or may be owing to tuberculous obstructions of the lungs, dropfy in their cellular substance, or in the cavity of the breast, especially in the earlier stages of those diseases.

D. Sense of anxiety at the pit of the stomach, loss of appetite, nausea, sense of constriction, flatulent distension, colic pains, and a variety of other uneasy sensations, may be spasmodic, flatulent, or gouty;—or they may proceed from schirrus of the stomach or liver, gall-stones, gravel, obstructions of the mesentery, &c.

E. Convulsive diseases of various kinds may be the effects of pure nervous irritability;—or they may proceed from obstructions of the brain or other organs, producing irregularity in the distribution of the nervous power to the organs of sensation and motion.

F. Palsy from mere weakness, spasmodic colic, or the translocation of gouty or rheumatic matter on the spinal marrow, is a very different

different disease from that which proceeds from congestion of blood in the vessels, or serum in the cavities of the brain, tumours of that organ, or in others, compressing particular nerves.

G. The morbid increase of excretions, discharges of blood, or dropfical collections in the cavities of the head, breast, abdomen, or extremities, which proceed from mere weakness, are very different from those which are produced by permanent obstructions of the great organs.

H. Irregular fever is often the effect of weakness or irritability; but it is also the result of visceral obstruction.*

§. 93. From what has been said under these few examples, it will appear how difficult it may be to distinguish the two Classes by their symptoms: here, however, the young practitioner may draw some useful information from attending to temperament, former diseases, the intermission or constancy of the symptoms, (they being more permanent in the second than in the first Class) and the effects of regimen.

* See Vol. I. page 206, for the distinction.

I have already remarked, Chap. XI, that in obscure diseases, as those of the second Class, it will be more prudent for the practitioner to feel his way, by a trial of the effects of regimen, rather than fall on pell-mell with powerful remedies, before the nature of the disease is ascertained; which will be more difficult, as those of the first Class gradually glide into those of the second.

2dly. *The state of the stomach and bowels.* It has been remarked that, in diseases of the first and second Class, the digestive powers are often very weak; and in this case, we must be contented to permit the patient to use that kind of food which, being most grateful to the nerves of the stomach, is most likely to be converted into good nourishment, without regarding how far it may, or may not, be indicated by the nature of the disease: for the patient must be nourished, or die.

Of the necessity of indulging patients in the use of what is most grateful to them, I gave a strong instance, Chap. XIII; and shall subjoin another, which fell under my observation two years ago.

A lady

A lady who had been many years subject to hypochondriacal complaints, combined with irregular gout, and, as I suspected, obstructions of some of the abdominal viscera, put herself under my care. Her appetite was totally lost, and her stomach rejected the greatest part of the little food she took to sustain life; and, from habit and prejudice, she totally abstained from all strong drinks. I insisted on her trying how far ham, salted tongue, and highly seasoned foods, would agree with her stomach; and she, having an insuperable aversion to wine, was persuaded to drink porter, and brandy or rum with water: she drank the Bath waters in very small quantities. By these means, joined with a little warm medicine, her vomiting ceased, her appetite returned, and she left Bath in a better state than she had been in for some years. That this change did not proceed from any other circumstance, except the change of regimen, was evident from her having drank the Bath waters for more than a month without the least benefit before she consulted me. I recommended, that, as her stomach acquired strength, she should gradually

dually return to the more simple diet to which she had been habituated.

What shall we say to Dr. Cadogan's *unqualified* interdiction of all salted and smoked meats, and spiceries, in chronic diseases? and what plan of diet would the Doctor have suggested in cases similar to this?

A judicious physician will no more *strain at a gnat, than swallow a camel*; nor will he sacrifice the life of a patient to the rigour of a general rule, though it may, on the whole, be well-founded: But, after an experience of forty years, I will venture to affirm, that if the Doctor has met with no cases in which *he did not* recede from his general plan, his practice must either have been very limited, or very singular.

Now I am upon the subject of necessary indulgence, I conceive that the occasional use of the condiments, whether pickles or spiceries, cannot be more objectionable than the occasional use of bitters or cordials; they both answer a good temporary purpose; but that purpose being answered, they become equally unnecessary and improper.

Such patients whose appetite and digestion are weak, take but little food at a time,
and

and therefore cannot bear long fasting; yet they are unwilling to eat but at set meals; but this is a very improper self-denial; for as the stomach of such persons is much disposed to generate a sharp acid, an unnatural craving is thereby excited, which sometimes induces them to eat more than they can digest.*

I would not, from what I have said, have it inferred that I am an advocate for high and stimulating diet in chronic diseases; for I am convinced that a moderate and spare regimen is in general indicated, for reasons already given under the indication.

3dly. *The habits of life.* Many of those persons who labour under chronic diseases, *gout* especially, are such as have indulged in all the intemperance of what is very *improperly* termed *good living*, both in eating and drinking; and though they derive their ill health and broken constitutions from this mode of life, yet it is generally very unsafe to make a sudden transition to an opposite regimen, though more suitable to the nature of their disease; for we are the children of

* See Vol. I. Essay I. page 211, on the faults of digestion.

habit, bodily and mental, and our organs will not bear being suddenly deprived of their wonted stimuli; which, however injurious in their qualities, are, by custom, become natural.

Dr. *Cadogan*, therefore, erred in not pointing out with precision the circumstances under which his plan was safe and practicable; for I have known several old gouty patients, who, having suddenly given up their liberal diet, were quickly obliged to revert to their wonted fare, from an alarming conviction of the danger they had incurred.*

But it was not gouty patients alone who suffered by adopting the Doctor's general plan; several fell under my cognizance who laboured under complaints of the stomach, vulgarly, but improperly, termed *bilious*. These patients, from weakness and irritability of the stomach, being unable to bear the Doctor's insipid diet, and abstinence from strong drink, lost flesh, spirits, and strength, until they were advised to recur to a more generous diet.

* I deem it to be peculiarly my duty to controvert such positions in Doctor *Cadogan's* popular pamphlet, as evidently lead to important errors in regimen: such of this gentleman's opinions as are merely hypothetical and speculative, and there are not a few such, I shall pass over without animadversion.

Others, when the idea of a gouty disposition became *fashionable*, though they had always been temperate, entered very precipitantly into the Doctor's plan, for the purpose of anticipating the possibility of being gouty; and from a tolerable, though somewhat delicate, state of health, sunk into an alarming state of weakness.

4thly. *State of the vital powers.* The first indication must be to sustain life; and it would be a vain attempt to prescribe remedies for the cure of a disease, whilst the powers of the constitution are so feeble, as neither to be able to bear the operation of remedies, nor give them due efficacy; and therefore, when patients are low and weak, such foods and drinks as may increase the power of the heart will be indispensibly necessary; and a glass of wine will be more likely to produce this effect, than a draught of water.

5thly. *An experimental conviction that low regimen will not answer.* Whilst some medical men totally disregard regimen, others are unnecessarily rigid in prescribing it; and since the publication of Doctor Cadogan's pamphlet, the low and abstemious regimen has become fashionable.

When

When medical men adopt opinions from an implicit reliance on authority, instead of being guided by scientific principles and accurate analogy, they are as much more tenacious of them, as the superstitious and enthusiastic are more violent zealots than the rational christian.

That a rigid and unqualified adherence to any particular regimen must be erroneous and injurious, cannot be doubted; for even in the same disease, an occasional change of regimen, as well as of medicines, may often be proper, and indeed necessary.

But in no respect have errors been so frequently committed as in chronic or slow diseases accompanied with fever.

I have remarked, (see Vol. I. Essay I. page 206) that in many slow diseases there is an irregular fever, which generally proceeds from mere weakness and irritability, and seems to be somewhat between a low nervous fever and an ague; and takes place more frequently in diseases of Class I. page 338; and from an ill-judged opinion that a stimulating diet must be injurious wheresoever there is a semblance of fever, many have, to their great injury, persevered in the use of a low diet;
and

and after having been on the point of sinking under it, have, by exchanging it for a liberal and generous regimen, recovered perfect health: The following case is precisely in point.

Some years ago I met with a British subject at Spa, exceedingly emaciated, and labouring under cough, gross spitting, and night sweats. He was dissuaded from drinking those chalybeate waters, on the supposition that he was in the last stage of a consumption. In the succeeding autumn I met him at Bath, where he was drinking the waters, and eating and drinking *ad libitum*, without any regard to regimen: He however gradually lost his cough and night sweats, as he gained flesh and strength; and in six months recovered perfect health. A near relation of his, now here, tells me that he is become remarkably corpulent.*

Had

* It may not be foreign from my purpose to offer a general remark in this place. The Bath waters have certainly a stimulating power, and heat persons who are either of a full habit, or labour under what is vulgarly termed a cold, when accompanied with inflammatory symptoms.

As a variety of circumstances contribute peculiarly to strangers catching cold at Bath; in this state they are told, by every acquaintance they meet, that they must not touch the waters; and
it

Had this young gentleman persisted in his low diet, even *Bristol water* would not have saved him; and had he sunk under his disease, which he certainly would, had he not changed his plan, it would have been supposed by all who knew him, that he died consumptive.

it has happened that the physician or apothecary, without attending to the temperament or circumstances of the case, has prohibited the use of the waters, until the cold was removed. But as I have remarked, (Vol. I. Essay I. page 204, No. 2 and 4, and §. 88 of this chapter) cough, and even slight fever, may be effects of mere weakness or irritability, and therefore the use of the Bath waters may not only *not* be injurious, but very beneficial, by increasing the vital powers, and promoting perspiration, and may thereby be the most effectual means, joined with a generous diet, of removing both cold and cough, as I have experienced in several instances.

In pale, fallow, bloated, and cachectic invalids, the little fever accompanying these colds is so far from being exasperated by the Bath water, that as an accessory stimulus, it may assist in producing those changes by which a cachectic habit approaches the inflammatory diathesis, as a step toward firm health.

It may be proper to add, that where there is some doubt whether the cough is of that nature which will admit of the use of the Bath water; no essential injury can accrue from a cautious trial: if it heats, produces fixed pains of the breast or side, and renders the cough more dry and harsh, it must be desisted from, and a little quiet and abstinence will soon remove it; but if the practitioner has carefully perused Chap. XI, &c. he can rarely err in determining what cases of this kind are or are not adapted to the use of the waters.

And

And here I would observe that, from the obscurity of the case, or inattention of the practitioner, many patients are, I believe, sent to drink Bristol water, on a supposition of consumptive tendency, without effect, who would have found their cure at Bath; and I have at this time a young gentleman under my care, who was sent to Bristol by an eminent physician of London, on the supposition of his being consumptive, where, receiving no benefit, he is now recovering fast under the use of the Bath waters.

The slow fever which accompanies some of the diseases of the second Class, approaches in its nature, in various degrees, nearer to that of the hectic; until it becomes absolutely and confirmedly so.

When obstructions have taken place to a considerable degree in important organs, as in the lungs, liver, and mesentery, they are not necessarily accompanied with irregular fever; but when they are, it is probable that there is some tendency to inflammation; and there is reason to suspect that, in its progress, it may become compleatly hectic, either from increase of inflammation, or the
formation

formation of matter in some part of the obstructed organ.

Here, the effects of regimen will afford the practitioner a more certain criterion concerning the nature of the disease, than any other circumstance.

It has been remarked, Chap. XI, that there are four degrees of regimen, the high, low, moderate, and alterative.

To determine which of those is most suitable to the case, there are some circumstances to be taken into consideration.

1st. If the patient is of a delicate habit, has been subject to nervous affections, and has been in the use of a moderate, and spare diet, without any mitigation of the symptoms, especially of the fever, it may be proper to try the effects of a more liberal and stimulating diet; and if this agrees, we may be assured that the disease is of the first Class; or that no considerable obstructions have yet taken place.

2^{dly}. If the patient was of a firm and athletic habit before he was seized with the present disease, and having been used to a liberal or high diet, still continues it, and the fever and other symptoms of the disease are
rather

rather exasperated than alleviated by it; the diet ought to be gradually reduced, as much as the strength will permit: if the fever be mitigated by this change, the fever is probably in some degree *hectic*; and the patient's safety will consist in a cautious reduction of regimen in the manner proposed in the next Chapter; until he or she can bear a diet of milk and vegetables, which I term the *alterative* diet, and which is certainly the only means of cure (so far as depends on diet) in inveterate diseases of the second Class, as will appear more fully in the next Chapter.

3dly. It sometimes happens that, from various causes, especially in complaints of the breast, a slow hectic becomes at once highly inflammatory; in this case it will be necessary to adopt the low regimen, Chap. XII, at once, and continue it until the symptoms abate; and then have recourse to the *alterative* diet, which may often be entered upon at once, as the body has been prepared for the change by the previous low regimen.

C H A P. XVI

REGIMEN OF DIET UNDER INVETERATE
DISEASES.

Diseases of the Third Class generally deemed Inveterate—Indications of Regimen in those Diseases—Gout not the representative of all Chronic Diseases—not always a Disease of Indigestion—every kind of Gout will not admit of the same Regimen—Dr. Cadogan's Error in this Instance—Sudden Change of Diet often hazardous, especially in Gout—Plan for a gradual Change—Cautions in executing the Plan—Instances of Success.

PROP. XV. SUCH DISEASES AS ARE BE-
COME INVETERATE, EITHER BY THEIR
NATURE OR DURATION, REQUIRE SUCH A
REGIMEN AS SHALL GRADUALLY CHANGE
THE STATE OF THE BODY, SO FAR AS
SHALL BE CONSISTENT WITH THE SAFETY
OF THE PATIENT.

THE diseases which generally come under
this description are, inveterate gout
and rheumatism, some kinds of palsy, epilepsy,
some species of melancholy, insanity, asthma,
polypus of the heart or large blood-vessels,
schrophula,

scrophula, consumptive tendency, obstinate obstructions of the liver, mesenteric glands, and other organs, schirrus of some considerable organs, cancer, leprosy, and other inveterate diseases of the skin.

§. 94. The indications of regimen in diseases of this third class are,

1st. To accommodate the regimen to such circumstances of the disease as seem to contribute to its inveteracy.

2^{dly}. To impose the least possible labour on the constitution, in the prosecution of dietetic regimen.

3^{dly}. To sustain the powers of life, otherwise neither medicine nor diet can avail.

These indications have been, and will be farther explained in the course of the chapter; it may however be observed, that formerly it was deemed by practitioners to be indispensibly necessary to put their patients upon what might be called a medicated diet; so that what with diet drinks, herb teas, antiscorbutic juices, &c. the poor patient was literally swallowing physic all day long;—a most distressful and disgusting occupation, founded on an idea of the necessity of sweetening the blood.

§ 95. There are many diseases which, being merely accidental, require only a temporary regulation of diet; and, the disease being removed, there can be no objection to the patients' returning gradually to their usual mode of living: such are, the diseases of the first class, and such of those of the second which, from the morbid affections of the organs being slight and recent, generally yield to a proper course of medicine, and a correspondent regimen: but when a disease, either from being hereditary, inveterate in its nature, or rendered so by long continuance, has become, as it were, a part of the constitution, as the diseases enumerated above, and also those of the second class when they become inveterate; nothing but a steady and unremitting attention to regimen, especially of diet, can possibly eradicate the evil, medicine alone being ineffectual.

Before I proceed to my remarks on the regimen pointed out by the indications, I shall make some observations on certain positions laid down by Dr. Cadogan.

§. 96. The Doctor, considering gout as the representative of all other chronic diseases,

cases, an opinion, however, to which many of his brethren will not perhaps readily accord, asserts, that gout is a disease of indigestion; but, admitting the fact, it would be difficult to prove that many other chronic diseases proceed also from the same cause, the contrary being in fact true; so that the analogy is not well founded; for in other diseases, and even in gout itself, there are not always indications of the organs of digestion being at all impaired, until the disease has become inveterate, and the powers of the constitution are almost entirely exhausted.

The Doctor, having assumed indigestion as the cause of gout and all other chronic diseases, and having asserted that wine produces more diseases than any other cause, proceeds to advance a position which, *in general*, will be granted him, that to attempt to cure a disease proceeding from intemperance by any other means than by avoiding the cause, would be as absurd as to take a medicine to prevent a broken leg.

I am inclined, however, to believe that an intemperate use of strong drink is not so frequent a cause of gout as is generally supposed; for soldiers, sailors, porters, &c. are,

in general, intemperate, and yet very few of that rank in life are gouty; and with respect to wine, which the Doctor condemns so peremptorily, gout is not so frequent in wine countries as in this; and though gout formed a part of that complicated disease under which *Cornaro* laboured, he continued to drink wine, especially that of the new vintage. But gout seems to have formed a very trivial part of his disease, and residing moreover in a warm climate, favourable to equal perspiration, there was less necessity for a very rigid regimen.

I am not, however, an advocate for the use of wine or other fermented liquors in gout, as will appear hereafter; I beg leave, however, to remark, that the Doctor's opinion, that we had better take the whole quantity of wine once a week, than in daily divided portions, contradicts both analogy and experience.

A physician of experience must be surpris'd that the Doctor should never have met with patients labouring under gout, whose disease was either totally incurable, or whose constitutions could not, without extreme hazard, admit of his regimen.

If

If he has not met with such patients, his practice must have been very limited; if he has, he ought to have declared such cases to be exceptions to his general rule of regimen, as he would thereby have saved many gouty patients the mortification of relinquishing their wine and roast beef, without any adequate advantage; often indeed to their great detriment.

§. 97. Were it even to be admitted that gout and other slow diseases are effects of indigestion, the Doctor's *sudden* transition from one extreme to another, would not be the proper means of restoring the tone of the enervated stomach and bowels, though in all cases where the constitution will bear it, I am convinced that a *gradual* lessening of the quantity of strong drinks and animal foods, and a proportionable increase of milk and vegetables, until the patient can bear such a diet solely, ought to be tried in every inveterate disease; for though many constitutions may not bear a *total* change, yet *even a partial reduction* may prolong life, and render the remainder of it more comfortable, by a mitigation of some of the most urgent symptoms.

The

The period when such a total change of diet is likely to succeed, is whilst the organs of digestion remain tolerably vigorous, which they continue to be in many patients long after the commencement of gout.

§. 98. Dr. *Cadogan* does not admit of milk as an article of his regimen, on the supposition of its being enervating and relaxing.

The Doctor's opinion is, however, flatly contradicted by experience; but there is a more cogent objection to milk as a part of the diet of invalids, that it sits very uneasily on the stomach of many persons; but where it does not, it is certainly preferable to the Doctor's foddren tripe.

It is undeniably true, that a milk and vegetable diet has done much in mitigating the violence of, or totally suspending, inveterate diseases, especially if hereditary. I have known several instances of a strong consumptive tendency, especially when accompanied by spitting of blood, being suspended by a total abstinence from animal food and strong drink; and the reason why this expedient does not succeed more frequently is, that it is adopted too late; that is, when the lungs are irreparably diseased.

§. 99. The *gout*, notwithstanding the many infallible nostrums which are advertised and recommended by ignorant quacks, has not, I believe, yielded, when inveterate, to any means but an entire change of diet; and in confirmation of this opinion, my gouty readers may be amused, *perhaps informed*, by the following cases.

Near twenty years ago, upon visiting a patient of mine; a ruddy, and apparently robust, old man dined with him. I remarked, that he ate nothing but pudding, and drank water. Curiosity led me to enquire into his motives for adopting this regimen. He told me, that when he was a young man, he drank hard, and being very quarrelsome in his cups, he came to a resolution of abstaining from strong drink; and being subject to severe attacks of the gout, he some years after determined to compleat his regimen, and refrain from animal food. From that time he had been entirely free from gout, and was then 70 years of age, and in perfect health: I told him, that having been fifteen years free from gout, and being at an advanced age, I believed he could not be essentially injured by a gradual return to the use of animal food and strong

strong drink. He made the experiment, and as he resided in a neighbouring county, I had no opportunity of seeing him afterwards, but he desired a friend of his to inform me, that he had not changed his regimen above six weeks, before he had a slight fit of gout. As I left that county a short time after, I did not learn whether he had any more fits of gout, or had again changed his plan in favour of meagre diet.

An attorney at law, one of the most bulky men I ever saw, had, by intemperance, incurred gout to such a degree as to be confined several months in the year, and was almost a cripple. The gentleman whom I succeeded at Guildford, now an eminent physician in London,* being consulted by him, advised him to enter on a milk and vegetable diet: this plan succeeded so far, that he not only lost his gout, but recovered the use of his limbs; and when I saw him, he had lost a considerable part of his unweildy corpulency, and was very active.

A man of the profession, who drank very hard, was induced, by the severity of the gout, to adopt the same regimen. The

* Dr. Reynolds.

change produced very happy effects; but being a violent partizan for a candidate at a county election, he relapsed into his former intemperance, the gout returned, and at length degenerated into an incurable palsy of one side.

In all the cases enumerated above, the patients were men of good constitutions; and two of them having commenced their sparing plan of diet when labouring under an inflammatory fit of the gout, the symptomatic fever prevented any ill effects which might be expected from the low diet; and before the fit was compleatly terminated, the patients became habituated to it, and persisted in it with impunity.

And here a most essential circumstance merits the attention of the gouty patient, which is the precise period when a reduction of diet ought to commence, and this should be regulated by the nature and degree of the disease. It has just been remarked, that in an inflammatory fit, during which the symptomatic fever deposited the matter rapidly and compleatly on the joints, as was evident from the redness, swelling, and pain, the reduction of diet was very judiciously commenced,

menced, because there was little or no hazard of the matter falling back on the constitution; and I have known several patients who, from the commencement of the fit, totally abstained from all animal food and strong drink until the end of it; and had such patients persevered in the use of the low diet, it is not to be doubted but they would have totally annihilated the disease.

§. 100. But when the constitutional vigour is considerably broken, the digestive organs weakened, the joints diseased, the gout become irregular, and the fits tardy and incomplete, it would be very improper to begin the reducing plan during the fit, as the vital powers ought, at that period, to be rather supported by a generous diet. The celebrated Dr. *Sydenham* was almost destroyed by attempting a sudden change of diet, probably under the circumstances to which I now allude.

In men advanced in life, whose fits of gout are tardy, and therefore neither inflammatory, painful, nor steady, it may be prudent to begin the experiment in the interval, by daily and very gradually subtracting a
very

very small portion of their animal food and wine. But should wandering gouty pains, symptoms of indigestion, or considerable depression of strength and spirits, shew that the vital and digestive powers are too weak to bear the change of diet, it will be prudent to increase the proportion of animal food and wine a little for a few days, until those symptoms wear off, when it may be right to make another trial of the reducing plan, but with extreme caution; and in this way, if the patient cannot bear an entire change of diet, he will nevertheless experience the benefit of that reduction which he can bear without hazard.

I am however convinced, that if gouty persons will have resolution to adopt this plan, before the constitution is totally worn out, there can be no danger in attempting a *gradual reduction*, until the health is restored by a milk and vegetable regimen; in which it will be prudent to persist as long as the constitution will bear it: for the first case shews that a return to a more liberal diet will probably hazard a return of gout.

§. 101. The reason why a cautious reduction of diet is necessary in gouty patients, seems

seems to be, that when the vital powers are too suddenly weakened, the gouty matter, floating in the habit, instead of being deposited on the extremities, is apt to fix on some of the principal organs; and may thereby become speedily fatal.

When gouty or other patients are induced, by the severity of their sufferings, to engage resolutely in the use of the alterative plan, the following hints may be of use.

1st. When there is a tolerable share of constitutional vigour, the appetite and digestion not much impaired, and the patient has not been much addicted to high dishes or strong drinks; he must, at the commencement of his course, confine himself to the use of one plain dish of solid animal food, with no other sauce or seasoning except salt and a little mustard; and a variety of vegetables; and may proceed in his change in the following manner:

First and second week, breakfast, coffee or chocolate, gradually increasing the proportion of milk in either, and desisting from butter: about an hour before dinner, a basin of plain soup; at dinner, a moderate portion of one dish of solid animal food of any kind,
roasted

roasted or boiled, with vegetables; plain soup for supper.

Third and fourth week, every other day soup only and plain pudding, milk for breakfast and supper.

Fifth and sixth week, soup and pudding two days successively, the intervening day boiled meat.

Seventh week, soup one day for dinner, pudding another; milk about an hour before the pudding dinner, soup for supper on the pudding day; solid animal food to be now given up entirely,

Eighth week, the milk, pudding and vegetable diet may be totally adopted.

With respect to wine, or other strong drink; by a gradual lessening of the quantity daily, the whole may be left off in the course of eight weeks.

2dly. When a gouty patient is not considerably reduced in point of strength, if his appetite be tolerably good, but his digestion weak; and he has been in the habit of living high, whilst his fits of gout are still tolerably regular, compleat, and inflammatory; the reduction of regimen ought to be begun as soon as the fit is well formed, for reasons assigned

assigned above; and the reduction is to be made more or less gradually on the preceding plan, as the patient can bear it.

3dly. If the patient has either no regular fit of gout, or that very little, if at all, inflammatory and fixed; but the gouty matter falls frequently on the internal organs; and the strength, appetite, and digestion, are very much impaired; in this case, very little is to be hoped from a considerable change; though a partial one may be attempted under the restrictions and cautions already mentioned.

§. 102. There are, however, two diseases, that will, from their nature, and urgency, demand a sudden transition to the *low* regimen indicated Chap. XIII; viz. considerable spitting of blood with or without fever; or cough with hectic fever; and if they do not yield to this change, a trial of, and perseverance in, the *alterative* plan, may be the best means of mitigating the symptoms, and protracting the life of the patient.

§. 103. With respect to the other inveterate diseases enumerated in the beginning of this Chapter; there will not be so much
risque

risque in attempting the alterative plan, as in gout; but it will be more prudent to do it gradually.

A low and spare diet has been prescribed with advantage in some species of obstinate chronic rheumatism; and if I recollect aright, the celebrated Dr. *Boerhaave* lived for some weeks solely on whey, when labouring under that disease. Abstinence from animal food and strong drink has sometimes been of use in epilepsy; and in one case of inveterate asthma, and a single case of enlarged liver, where the other bowels were supposed to be diseased, the diet I have recommended not only prolonged life beyond what might have been expected, but rendered it much more comfortable: and I am convinced, that in such deplorable cases, such a diet is the *dernier resort*, when all medicines fail. But few will be found who have resolution sufficient to persevere.

Milk, which constitutes the chief part of food on this reduced plan, rarely sits easy on the stomach at first; but small doses of magnesia, colombo, ipecacuanha, or ley of tartar, will at length effect the purpose of rendering

it digestible, by strengthening the stomach, and correcting acidity.

Whey and butter-milk are, I believe, in many instances, preferable to milk, as an article of diet on this plan. I knew one patient, on the Continent of America, who was cured of a most inveterate leprosy by such a diet; and I have been informed of an instance of scrophula being cured by a course of whey; and a low diet has abated the violence, and retarded the progress, of schirrous and cancerous tumours.

My readers may expect I should assign some reasons why the diet now recommended will probably be effectual in the diseases enumerated in the beginning of this Chapter; especially as the instances are heretofore too few to afford certain hope of success: some remarks made Chap. IX. page 283, &c. will assist in explaining this; and the following observations are more precisely in point.

When gout is acquired, it is most commonly produced by luxurious excess in the use of animal foods and strong drinks, by which the constitution is overcharged, and every organ and function overstrained by extraordinary exertions to digest, circulate,
dispense,

dispense, and finally discharge the superabundant and crude humours: a diet therefore of a directly opposite nature, long and assiduouſly perſiſted in, will be moſt likely to eradicate the evil, provided there be ſufficient ſtrength of conſtitution left to reſtore the organs to their former vigour.

As many obſtinate nervous diſeaſes, complicated with the obſtructions mentioned Claſs II, proceed alſo from luxurious exceſs; a ſimilar diet muſt afford the moſt certain means of relief.

When obſtinate chronic diſeaſes ariſe from, or are connected with, obſtruction and enlargement of glands, or of ſome of the moſt important organs, as is frequently the caſe; the only hope of relief muſt be from that kind of diet which has the leaſt poſſible tendency to increaſe the obſtructions, whilſt, being now freed from preternatural ſtimulus, the diſeaſed organs may, if their texture be not irretrievably ſpoiled, reſtore themſelves to their priſtine ſtate.

With reſpect to thoſe inveterate diſeaſes in which the ſuperficial glands are much diſeaſed; as in ſcrophula, ſurfeits, as they are called, land ſcurvy, and different ſpecies of

B b 2

leprous

leprous eruptions, it is probable that the beneficial change takes place rather in the secretory organs, than in the whole mass of blood; for, as I remarked before, the idea of diseases being generally produced by some fault of the circulating mass, is frequently the result of a false theory, and often suggests an erroneous or frivolous practice.

With respect to hereditary diseases, until we can determine in what part of the system, and whether in the solids or fluids, the taint resides, we shall not be able to account how it is diminished or extinguished by a suitable diet; it is sufficient to know the fact; and though the evil is, in these cases, seldom totally eradicated, yet we certainly gain a great point, if we can retard its progress.

To conclude: Though medicines may certainly be very useful in diseases of an inveterate nature; yet I believe the instances of their effecting a compleat cure, without a corresponding diet, are very rare, notwithstanding the presumptuous boastings, and vain promises, of *charlatans* and *quacks*.

BOOK II.—CHAP. I.

CHOICE OF HABITATION, OR OCCASIONAL
RESIDENCE.

Circumstances necessary for the Choice of a healthy Habitation—Opinion of Hippocrates—Cities unfavourable to Health—Signs of unhealthy Situation—Winter Retreats most favourable to Invalids.

PROP. XVI. THE CHOICE OF HABITATION IS TO BE REGULATED BY THE SALUBRITY OF THE AIR, THE DRYNESS OF THE SOIL, THE SECURITY AGAINST THE INFLUENCE OF CHILLING WINDS, AND THE PURITY OF THE WATER.

HAVING treated very fully of regimen of diet, I proceed now to offer a few observations on regimen, with respect to the other non-naturals; but they will be better understood after a re-perusal of Essay V. book I. chap. I. page 139.

§. 104. The great *Hippocrates*, and every physician since his time, have considered choice of habitation as a very essential circumstance toward the prevention or cure of diseases.

If a man of fortune intended to build a mansion, it would be prudent to consult a physician concerning its air, soil, aspect, and the water he must use. But it would be foreign to my purpose to enter on the subject of site on so extensive a plan; as I intend only to offer a few hints to invalids.

A house situated at a distance from large cities, burying grounds, mines, or large manufactures, and built on a gentle declivity, in a gravelly soil, with a southern aspect, sheltered from the north and east winds, and in the neighbourhood of the sea, would be the most eligible. The apartments ought to be spacious and lofty, especially the bed-chambers; and the casements so constructed as to permit the upper sashes to be lowered to such a degree, as to promote a constant ventilation: stoves, as improved by the ingenious Mr. *Sharpe* of London, are, for reasons already assigned, preferable to common grates.

There

There are several circumstances which shew that the air of a house is unhealthy; such are, dampness of the walls, rotting of the furniture, rusting of brass and iron, mouldiness of bread, and melting of sugar. As we cannot always change our habitations, this impurity of the air ought to be corrected by large fires, and frequent ventilation.

The water employed for drinking, and the use of the kitchen, ought to be clear, without smell or taste, and such as readily breaks soap.

Thick woods, or stagnant waters, whether ponds or marshes, are generally deemed unwholesome when near a mansion; and the adjoining roads ought to be safe and commodious for the purpose of exercise.

§. 105. Cities are extremely unfavourable to health and long life, insomuch that of near 800,000 persons who died in London in the space of 30 years, only 242 persons survived the 100th year; and all the instances of longevity collected by the ingenious Dr. *Fothergill*, a physician of Bath, have been taken from country villages.

The

The following is the proportion of deaths in several parts of Europe:

In Vienna, 1 in 19 of the whole inhabitants die yearly.

London, 1 in $20\frac{3}{4}$

Berlin, 1 in $26\frac{1}{2}$

Northampton, 1 in 34

The Pais du Vaud, 1 in 45.

Here we see, that the mortality in Vienna and London is more than doubly greater than in the Pais du Vaud.

§. 106. As this climate is, perhaps, the most unsteady of any in Europe, it would be proper that wealthy invalids, the consumptive especially, should retire to a southern part of the continent, as Nice, Naples, or Lisbon, or to the island of Madeira, and there reside from the month of September or October to the middle of May, accompanied by a skilful, humane, and chearful English physician, whose advice ought to be solely relied on, and implicitly complied with: for it is most certain that the physicians on the Continent are a century behind us in medical knowledge; those of France, Spain, and Portugal, especially.

The journey, and the diversity of objects, may contribute to amuse the mind; for with respect

respect to the accommodation of invalids, no country I have visited is in any respect to be compared with this.

But as many invalids are unable to incur the expence of such excursions, there is no other alternative, if their circumstances will permit, than to change their residence in this country according to the changes of season, which must be left to the judgment of their physician.

The west coast of this kingdom, especially of Devonshire, has lately been deemed to be a very proper retreat, during winter, for persons of infirm health; and has, I am told, been preferred to any of the places recommended above: but to this opinion I cannot by any means assent, experimentally convinced as I am of the contrary. Of all the climates for invalids, I do, from experience, recommend Madeira; and if the patient chuses to take a longer voyage, North or South Carolina; the latter during the winter particularly.

Some consumptive persons, and gouty patients, have found considerable advantage from residing in some of our West-India islands. The air on the coast of Devonshire
and

and Cornwall is undoubtedly soft, but the accommodation is bad, the lodging-houses being generally little more than mere cottages; the roads are moreover bad; and the frequent falls of rain in low situations near the sea, in this climate, are not favourable to invalids. There is, I apprehend, another objection, which is, that the ebb tides leave a very considerable portion of mud, from which there arise very copious exhalations, which are, in calm weather, very offensive to the smell, and, there is reason to believe, not salutary.



C H A P. II.

CLOATHING.

Analogy between Cloathing, and the high or low, the stimulating or sedative, Regimen—Brutes have various Defences against Inclemency of Weather—Luxury enervates the Body by disposing us to cloath too warmly—Degrees of Cloathing to be adapted to different Ages—Climates—Habits of Life—State of Health—Cloathing for healthy Persons—for Invalids and Sick Persons—Bed warming to whom injurious—Stays why injurious to Females—Males who wear them to be deemed of the Neuter Gender.

PROP. XVII. CLOATHING OUGHT TO BE ACCOMMODATED TO DIFFERENT AGES, HABITS OF LIFE, CLIMATE, SEASON, AND STATE OF HEALTH.

§. 107. **T**HE degrees of cloathing may be considered as having some analogy with the high and low, or the hot and cold, regimen; as thick clothing or covering acts as a stimulus, and thin cloathing as a sedative.

Particular

Particular kinds of cloathing are more or less warm according to their qualities, as being more or less conductors of the electric fluid; or according to their colours; as disposed to refract and absorb, or reflect and throw off, the rays of light.

§. 108. As nature has provided all other animals with various defences of hair, wool, feathers, or scales, by which they may resist the noxious impressions of different elements; so instinct has dictated to man, even in his savage state, the necessity of covering, in proportion to the inclemency of countries and seasons.

In civilized societies, the improvement of arts, the facility with which men are supplied with the conveniences and luxuries of life, and the gratification which these afford, have disposed mankind to be perhaps too solicitous about guarding against the inclemency of seasons; and hence it is that our bodies being rendered more tender and delicate, and our feelings more acute, we find, that in proportion to the increase of luxury, we become less hardy; as being more obnoxious to the influence and impression of manifold causes of disease.

As a physician cannot, any more than a legislator, always effect a proper change in the national manners and morals, it is incumbent on both to establish such regulations as the habits of the people will admit of.

It is very much to be regretted, that luxury has in some degree extended its influence to all ranks of the community; by which the bodies of the most useful members of it, the middling and lower ranks, are more enervated than those of their ancestors.

§. 109. With respect to the different periods of life, children should, from their birth, be habituated to light cloathing, not only by day, but in bed; for nothing contributes more to form the constitution: infants and children are less apt to have their perspiration checked, than persons who are more advanced in life; and therefore less apt to catch cold. From the stage of childhood to the 35th year, the strength of the vital powers, and a brisk circulation, tend very much to keep up an equal perspiration; but after that period, the force of the circulation being lessened, the cloathing by day, and the covering by night, should be gradually increased;

creased ; for many of the diseases of advanced life are produced, or exasperated, by obstructed perspiration.

§. 110. *Climate, and Season of the Year*, ought certainly to have cloathing suited to them ; but in our unsteady climate it is very difficult to accommodate them to the sudden changes. Upon the whole, however, after the age of 35, it may be better to exceed, rather than be deficient, in cloathing.

§. 111. *Habit, or Custom*, always merits great attention. If persons have been accustomed to warm cloathing, there will always be hazard in sudden changes of any kind. Those who cloath, and sleep warmly, ought not to indulge in hot close rooms during the day, or have fires in their bed-chambers. Those who have resided long in hot climates, when they come into this, should rather exceed in their cloathing.

§. 112. With respect to *the state of health* ; to persons of hale constitutions, and in high health, very warm cloathing in the day, or covering at night, would be very improper ;
because

because their vital powers being strong, and the circulation vigorous, the warmth and steady perspiration on the surface and extremities resist the impressions of cold or moisture, unless they are very violent.

Such persons, however, relying too much on the strength of their constitutions, often expose themselves imprudently; and as the violence of their diseases is generally in proportion to the vigour of their vital powers; so they are frequently rapid in their progress, and fatal in their termination.

The grand rule is, so to regulate our cloathing and covering, that, when we expose ourselves to the external air, the difference of the temperature of the air in both situations shall be such, that we shall not be susceptible of dangerous impressions under any inclemency of season when we go abroad.

Persons in firm health ought therefore so to regulate the temperature within doors, as that it shall not exceed fifty-six degrees of the thermometer in the winter, spring, and autumn; and in the summer, bring it as near to that as possible, by the admission of fresh air.

§. 113. But the chief intention of this essay is, to offer hints to the *delicate* and *invalid* part of my readers.

Were it happily in our option to attain all the requisites for forming a firm constitution, no man of common sense would spare any pains to acquire them: but this is not always in our power. A weakness of constitution is often hereditary; or it may result from diseases, either unavoidable, or the effects of negligence or inattention.

Under such circumstances, we must be content to accommodate ourselves to our situation, and prudently avoid all such extremes as may impair health.

Persons of delicate and irritable constitutions, whose vital powers are weak, and circulation languid and unsteady, are very apt to have the perspiration checked by very slight causes: This also happens to invalids, whose complaints are thereby much exasperated. Until the constitution, therefore, has been strengthened, and as it were hardened, by being gradually habituated to air and exercise, they ought rather to exceed than be deficient in the quantity of cloathing.

§. 114. With

§. 114. With respect to cloathing, such addition ought to be made to it, in cold and damp weather, as to protect the body against the sudden and severe impressions of either.— That great philosopher, and good man, Mr. *Boyle*, had cloaks accommodated to different seasons and changes of weather; and invalids ought rather to exceed than be deficient in the warmth of their cloathing, those especially who are subject to catarrhal coughs, those whose nerves are weak and irritable, and those who are gouty and rheumatic.

Such persons ought in the beginning of September to wear a flannel waistcoat over the shirt or shift, and, towards the end of October, next the body; taking care to defend the lower limbs by flannel petticoats, or woollen drawers, and stockings.

Such persons as wear flannel next the body are apprehensive of changing this part of their cloathing, lest they catch cold, and therefore continue to wear the same garment through the winter; and as the warm weather comes on, cut it away by degrees. But this precaution is not only unnecessary, but to persons of delicacy must be offensive, and indeed injurious; as thereby a part of the

perspirable matter, accumulated for months, is retained in constant contact with the surface of the body.

I can however aver, from long personal experience, that the under waistcoat may be safely changed once or twice a week; and as the weather becomes more mild, it may be worn over the linen, and at length totally left off till the subsequent autumn.

But as, in this unsteady climate, a sultry day in summer is often succeeded by one or more that are cold and raw, delicate persons, who labour under complaints of the breast or bowels, or are subject to gout or rheumatism, ought, as often as such changes take place, to make an addition to their cloathing, so long as is necessary.

I cannot quit this subject without observing, that the application of a double, treble, or even quadruple piece of flannel upon the breast in coughs, the belly in colics, diarrhœas, &c. and to any of the limbs affected by rheumatism, affords a degree of relief beyond what might be expected; especially if it be sprinkled with a little lavender water or soap liniment, and a moderately hot smoothing iron be run over it repeatedly. The powerful

erful determination made by this means from the affected organ is, perhaps, greater than that of a blister; and certainly more permanent, as the means may be applied very frequently. The idea of benefit from repeated dyings of the flannel, is absurd.

§. 115. I hope my fair readers, if any such there be, will pardon me for animadverting on an article of their cloathing, which I have long considered as extremely prejudicial, especially to the younger part of the sex: I mean the *stays*. For though the prevailing *fashion* has allowed them a little more latitude than formerly, this part of their dress is still too strait and tight, especially for invalids; many of whose complaints are probably produced, but all exasperated, by this coat (not of mail, but) of whalebone. However, as from custom they require some support to their chest, I would recommend stiffened jackets, or the old boddice, in lieu of stays; and in cold weather, they may be lined with thick flannel.

I am, however, apprehensive, that this admonition, important as it is, will not make a proper impression on the ladies. To a fine

woman, as with an ambitious man, it is not living, but *reigning*, is the object.

It has, of late, been suspected that some young men, that they might become more compleatly effeminate, wear stays: It is to be hoped that the ladies will not deem them to be either males or females, but of the neuter gender.

§. 116. The feet ought to be well defended with thick shoes.

§. 117. As cleanliness contributes much to health, invalids ought to bathe their feet and legs once a week in warm water; and when it can be conveniently done, use a moderately warm bath once a month. .

§. 118. With respect to covering whilst in bed, much will depend on habit. The head ought to be peculiarly well covered whilst we are in bed, because colds and rheums are thereby prevented; and it is remarked, that as foreigners are more attentive to this circumstance than we are, they are less subject to coughs, and their teeth are in general more sound.

People

People in health ought never to have their beds warmed; not only because the fumes of the coals are in some degree noxious, but because warmth thus applied enervates the body. To avoid the disagreeable impression of a cold bed, Dr. *Franklin* judiciously recommends a cold air bath, by standing naked in the cold for a minute or two before we go into bed, and rubbing the body during that time strongly with a flesh brush; and I will add, that a similar exposure in a morning, whilst the whole body is again well rubbed by the flesh brush, would be of great use.

But such expedients ought to be very cautiously adopted by invalids.

With respect to them, airing the sheets every night before the fire, so as to evaporate the perspiration they may have absorbed the preceding night, may be of use; and is a salutary substitute for bed-warming.

If, however, invalids and sick persons cannot from custom dispense with bed warming, one or two quarts of sand, made red hot in an iron pot, and put into the warming pan, will be void of all offensive smell; a circumstance of great consequence to persons who have weak lungs, or very irritable nerves.

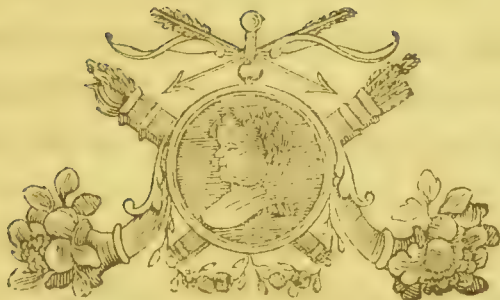
§. 119. Though

§. 119. Though a very eminent physician seems to consider damp rooms and cloaths as seldom or never productive of any bad effects; yet the many instances of dangerous and fatal consequences from damp linen and sheets, to the most healthy, ought to make invalids, especially, very careful in those points.

With respect to the quantity of bed-cloaths, it ought to be such as may, in a reasonable time after we are in bed, promote an equal but insensible perspiration; and if on awaking, at any time in the night, we find ourselves so much heated as to be obliged to throw a part of them off, we may be assured that the quantity is too great: it will be right to cover the legs more warmly than the upper parts of the body, as the circulation in the extremities is more languid, and the warmth of those parts necessarily less: and as invalids rarely fall asleep until there is a gentle perspiration on the extremities, it will be right to procure that as soon as possible. Gouty and rheumatic patients sometimes find advantage from wearing worsted gauze stockings, or flannel socks, in bed, during cold weather.

I need

I need not repeat what I have already said on the benefits which must accrue from sleeping in a large and well-aired chamber. When there is a constant circulation of fresh air, we are much less incommoded by heavy bed-cloaths.



C H A P. III.

EXERCISE AND REST.

Man destined to Labour—Exercise necessary to Health—it promotes the internal Exercise of the Functions, and contributes to Longevity—Effects of moderate Exercise—of violent Exercise—Rest why necessary after Exercise—Exercise active—passive—how accommodated to different Circumstances—its Use to Invalids and sick Persons—Remarks on Cold Bathing.

PROP. XVIII. EXERCISE OF THE BODY SHOULD BE ACCOMMODATED TO THE CIRCUMSTANCES OF AGE, TEMPERAMENT, CUSTOM, AND THE STATE OF HEALTH.

§. 120. **T**O preserve a due relation between the different parts of regimen, it may be remarked, that exercise is analogous to the high or stimulating regimen, and rest to the low or sedative regimen of diet.

§. 121. As the greatest part of every community is reduced to the necessity of earning

earning daily bread by the sweat of the brow; so it is evident that man was destined to labour. The few, however, who by affluence are exempted from the necessity of daily labour, as the means of subsistence, cannot long enjoy firm health, without the use of muscular exercise.

I have shewn (Essay I.) that all the motions of our organs, excited by their natural stimuli, may be considered as so many degrees of involuntary exercise; and daily experience proves, that voluntary exercise contributes very much to support a vigorous and steady exertion of the internal functions; as is evident from the cheerfulness and alacrity with which children exercise themselves for many hours at a time; and from its being an acknowledged fact, that the very small proportion of mankind who have attained very old age, have been reduced to the necessity of labouring for their daily bread.

§. 122. Exercise, in a moderate degree, promotes the circulation of the blood, invigorates the nervous system, gives firmness and elasticity to the muscular fibres, and vigour and pliancy to the limbs, promotes digestion

digestion in all its stages, and also the due distribution of nourishment, and the finer excretions, especially perspiration.

§. 123. Exercise, when violent or too long continued, renders the circulation unequal and tumultuous, weakens the nervous system and the springs of life, exhausts muscular strength, disturbs and lessens insensible perspiration, and, by promoting sweat, an unnatural and weakening evacuation, wastes the body, by discharging many of the nutritious parts of our solids and fluids: hence very laborious persons die of a premature old age. (See Essay I. chap. ii. page 25.)

§. 124. From what has been said §. 123, it is evident that some intervals of quiet and rest are necessary to restore the muscles when fatigued by exercise, and recruit the constitutional waste thereby incurred.

But these intervals of rest should only be such as to afford relief from fatigue; and, therefore, not a day should be allowed to pass, without a degree of exercise accommodated to the strength. Few persons can long enjoy firm health, under a habit of indolence;

dolence; and it is peculiarly injurious to invalids; as, like sleep in excess, it contributes to increase that languor of the animal, vital, and natural functions, which constitutes a very considerable part of every disease.

§. 125. Exercise may be divided into active and passive.

The *active* exercises are—walking, riding, dancing, the chamber-horse, swinging of leads, the dumb-bell, shuttle-cock, fencing, swimming, &c.

The *passive* are—carriage and gentle horse exercise, the use of the flesh-brush, the cold-bath, electricity, and swinging.

The active exercises are best adapted to the strong, and most suitable for the preservation of health; the passive are more safe and beneficial to the delicate invalid, and to those who labour under slow diseases; for in all acute diseases, as I have remarked chap. xii. rest and quiet are indispensibly necessary.

We proceed now to consider the nature and degree of exercise accommodated to different circumstances.

1st. *Age*. From early infancy to the age of 20, exercise promotes the extension of the solids,

solids, and the growth of the body, provided it is not too laborious; between the 25th and 60th years, moderate active exercise supports the powers of the constitution; but after that period the passive exercises are best suited to that feeble and frail state of the body which accompanies old age.

2dly. *Temperament, or habit of body.* Persons of firm and vigorous constitutions bear active exercises; but, relying too much on their bodily strength, they often exceed; and thereby bring on dangerous inflammatory fevers. Young persons also of a sanguine habit are, from the over-fulness of their vessels, often much injured by violent exercise, and fall into dangerous fevers, spitting of blood, and consumption; especially from that bewitching amusement, *dancing*, particularly in crowded and hot rooms.

Persons of delicate irritable habits cannot bear much active exercise; and as there seems to be in this habit a kind of constitutional propensity to tenderness of the lungs, they may very much injure themselves by violent exercise.

3dly. Sedentary persons ought to enter on the use of exercise with much caution; lest the

the sudden stimulus given to the constitution, by violent exertions, should throw the whole frame into great disorder.

Many persons are apt to be whimsically irregular and desultory in this respect, by making sudden transitions from one extreme to another: moderate and steady exercise, pursued daily, is certainly more safe.

Some, however, as an apology for their indolence, have advanced an opinion, that when exercise becomes habitual, or is undertaken with reluctance, it ceases to be a benefit; but this mode of reasoning is certainly very erroneous, and I am the more solicitous to combat this notion, as it is held by some persons of very respectable characters, with whom I have occasionally conversed on this subject.

Man is undoubtedly the child of habit, and the effects of all the non-naturals upon his body are somewhat diminished by frequent repetition; but the labourer, who returns daily to his necessary exercise, does not feel either his appetite or his strength impaired thereby, provided it be not excessive; this is so far from being the case, that it becomes indispensibly necessary for the preservation of his

his health, infomuch that fuch perfons as, from a change of circumftances, have made a tranfition from labour to indolence, and from penury to affluence, have generally exchanged health for infirmity, and have embittered and fhortened the remainder of life.

The reason why the opulent benefit lefs by their diurnal exercife, is, that they counteract its good effects by a luxurious indulgence of that appetite which their exercife has excited; whilft thofe who labour from neceffity, feldom fuffer by excefs of repletion, their meals being generally scanty, and not of the moft nutritive kind.

Thofe keen fportfmen, moreover, who in purfuit of pleafure ufe much more violent exercife than the day-labourer, and return much fatigued and over-heated, think themfelves entitled to all the indulgence of a plentiful table, and thereby fuperadd the fever of digeftion to the fever of exercife.

Many years ago, a man of fortune, rather of a delicate habit, but paffionately fond of hunting, incurred thereby a very fevere fever; and ever after, on the days he hunted, not only avoided all ftimulating difhes, and ftrong drinks, but on thofe days was more than ordinarily

narily abstemious with respect to the simplest foods; and experienced the benefits of it.

It need scarcely be observed, that little benefit is to be expected from exercise, unless it be performed in a pure air; and hence it is that many manufacturers and artificers, who perform all their labour under cover, and are often exposed to unwholesome effluvia from the materials they work upon, are more unhealthy than any other order of men.

It may be of use to the sedentary and studious to remark, that certain positions of the body are beneficial or injurious.

To study standing or walking is more wholesome than sitting; and stooping, especially leaning against a table, either in reading, writing, or other employment, retards digestion, circulation, and nutrition.

§. 126. Having made some remarks on exercise, as the means of preserving health, it remains that I should offer a few observations on the use of exercise by invalids and persons labouring under chronic diseases.

When the body is weak, and the spirits are depressed, the patients undertake any degree of exercise with extreme reluctance; and by indulging

indulging a habit of indolence, protract and exasperate all their complaints.

Dr. *Cadogan* has justly assigned indolence as one of the great causes of disease; and exercise, accommodated to the strength, is undoubtedly one of the safest and most effectual means of recovery. Whatever the exercise be, it ought never to be carried so far as to produce great sense of fatigue; otherwise, instead of being beneficial, it may be very injurious.

It is surprising how much relief convalescents and sick persons experience by gentle exercise in a good air; and therefore, disregarding all objections, their friends and connections ought to insist on the trial being made; for the first impediment being surmounted, the sick rarely object to a repetition.

When the patient is exceedingly weak, a cotton hammacoe, or cot, ought to be flung in the bed-chamber, or an adjoining room, in the manner they are used in the West-India colonies; in which they may be swung daily to any degree they can bear, using frictions with the flesh-brush, or flannels impregnated with the steams of aromatics. These gentle modes of exercise are peculiarly
adapted

adapted to gouty cripples, in the intervals of the fits.

When invalids return from their exercise, which ought to be gradually increased; if they find themselves chilled by the cold air, instead of warming themselves over the fire, they ought to sit down in a remote part of the room until their feelings are gradually reconciled to the temperature of the internal air; as by this precaution all the hazard of rushing from one extreme to another may be avoided.

The exercise of *shuttle-cock* is peculiarly beneficial to such invalids as have sufficient strength to undergo it; as by the various exertions of the muscles of the limbs, and of the trunk of the body, and the alternate compression and relaxation of the blood vessels and secretory organs, the circulation is promoted, the excretions, *especially perspiration*, are increased, the relaxed fibres strengthened, and the nervous system invigorated. When the invalid is confined by bad weather, this exercise, or that of the *chamber-horse*, ought to be performed several times a day, in a room ventilated by an open sash, taking care to avoid the draught of air; and

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this

this will be a more salutary mode of warming the body, than by the heat of fires.

I have already made some remarks (Essay II. of this Volume) on the danger of passing from heated rooms into the external air; and the means of avoiding it.

There are many instances recorded of the great efficacy of exercise in the cure of diseases. *Plato* tells us, that *Herodicus* was cured of the hypochondriacal disease by exercise.—*Pausanias* relates, that *Hysmoneus* was relieved from great weakness of nerves, by addicting himself to the five Olympic exercises; and thereby acquired such a degree of vigour, as to obtain many prizes at the Games; and *Plutarch* says, that *Laomedon* was so perfectly cured of an obstinate disease by exercise, as to excel in running.

Besides the invigorating quality of exercise, it certainly, by its stimulus, increases the efficacy of medicine, by extending its powers to every part of the system, and at length promoting its discharge by perspiration.

It may be remarked, that no exercise or remedy is more abused than *cold bathing*, as I have had many opportunities of observing; owing to the ignorance of the patient, or of
the

the prescriber, with respect to the analogy between the disease and the supposed remedy ; nor could blunders of this kind ever happen, were the principles of physiology and pathology tolerably understood.

Those to whom this exercise would be most beneficial, are often deterred from a trial of it by the delicacy of their nerves ; but I have always been able to reconcile such patients to it, by directing their beginning the course at home in a tub ; the coldness of the water, being moderated by the addition of boiling water, gradually lessening its proportion, till they can bear it quite cold. By this expedient I have snatched several puerile infants from the grave, and relieved not a few delicate invalids. Such persons as cannot conveniently bathe in the sea, may bathe with advantage at home, and if they chuse it, may add coarse salt ; but I apprehend that sea-bathing derives its efficacy more from the coldness than the saltiness of the water ; and fresh water is colder than salt water.

C H A P. IV.

SLEEP AND WATCHING.

Analogy between Watching and Sleep, and the stimulating and sedative Regimen—Effects of sound Sleep—of Excess of Sleep—of disturbed Sleep—instinctive Disposition to early Sleep—conducive to Longevity—Degree of Sleep suitable to different Periods of Life—to different Temperaments—to whom Sleeping in the Day useful—useful Hints.

PROP. XIX. THE HOURS OF SLEEPING AND WATCHING OUGHT TO BE ACCOMMODATED TO THE AGE, TEMPERAMENT, AND THE STATE OF HEALTH.

§. 127. FROM what has been said, Vol. I. Essay I. it is manifest, that the constant internal exercise of the various organs requires not only a cessation from muscular exercise, but a diminution of that stimulus which the soul, whilst we are awake, imparts to the organs of sensation and involuntary motion; and this can only be effected by sleep, which is indispensibly necessary.

After

After referring the reader to Vol. I. Essay I. page 31, &c. for the effects of sleep; it may be remarked, that as watching acts as a stimulant, so sleep is a sedative; there is therefore an analogy between these and the two classes of foods and drinks.

§. 128. The effects of sound sleep are, a more flow and equal circulation of the blood, and a more temperate and steady distribution of the nervous influence to the organs of involuntary motion; the chief of which are, the heart, lungs, and organs of nutrition; whilst those which supply the muscles, as organs of voluntary motion, are allowed some hours relaxation from laborious exertion; and the mind, by a sweet and salutary oblivion, is relieved from its exertions, its cares, and anxieties; so that the waste both of mental and bodily powers is compensated by sleep; and both are restored to pristine vigour.

During sound sleep, the nourishment is dispensed more regularly, and applied more properly, to the wasted solids, than when we are awake, and the body perspires more steadily and copiously, especially if a person

sleeps quietly. After a good night's rest, the body is *absolutely* lighter, because between two and three pounds of our humours have gone off by perspiration; and *relatively* so, because nothing tends more to give a sensation of *lightness* and alacrity than an equal and liberal perspiration.

§. 129. If sleep be too long protracted, the body is enervated, instead of being refreshed; and the powers of the mind become languid and oppressed.

§. 130. Disturbed and broken slumbers, instead of relieving either body or mind, enfeeble both, perhaps to a greater degree than even exercise itself; and have, perhaps, as bad effects, especially on invalids, as uninterrupted watching: for in such cases the perspirable matter is retained, and the body is not duly nourished.

§. 131. Those animals who instinctively follow the dictates of nature, go to rest as the sun descends below the horizon; and awake as he ascends above it. Even man, when not far remote from a state of nature,
obeys

obeys her dictates in the same manner. Darkness is best adapted to a state of rest, as light is to our daily employments; and therefore those who deviate from this law of nature, must necessarily and eventually pay the penalty.

A noble Lord,* who formerly distinguished himself in an eminent degree at the bar, informed me some years ago, that when any very old witnesses presented themselves in court, he upon enquiry found, that, whether their modes of life had been temperate or intemperate, they always went early to bed, and rose early.

§. 132. Different periods of life require different degrees of rest or sleep. During the first two or three months, the infant sleeps almost constantly; in proportion as it becomes more attentive to external objects, it becomes more wakeful, but still requires some intervals of rest during the day; by which the growth and extension of the body is promoted. When the child begins to walk, its exertions, especially if it be weak and sprightly, are often too great for the

* Lord Grantly.

bodily

bodily strength; and such children ought to be indulged, if they shew any propensity, to take a little sleep during the day. All children, and young persons especially, ought to be accustomed to going early to bed, and rising early. As sleep contributes very much to the growth of the body; when that is compleated, fewer hours ought to be employed in sleep from the 25th to the 55th year; when the approaches to old age, or a second childhood, require more indulgence in this respect.

With respect to persons of different constitutions, much depends on custom. To persons of strong constitutions, who lead an active and laborious life, seven or eight hours sleep is sufficient: Persons who are full of blood, or such as are corpulent, ought to be satisfied with less, and particularly avoid a soft bed, and heavy covering. Persons either constitutionally, or from disease, of a cold lax habit. are much injured by spending many hours in bed.

At every period of life, excepting old age, persons ought to be habituated to the use of a mattress, without or above a feather-bed: a soft bed is perhaps more injurious than heavy

heavy covering, because it heats and enervates the body, and promotes too copious a perspiration, a discharge, of any to which the body is subject, the most weakening: Children, especially the puerile, ought to be accustomed to a hard bed, and slight covering; as the body is thereby invigorated.

Sanctorius and *Lifter* both recommend an hour's sleep after dinner, for persons who have a weak digestion; and I had a very near relation who slept after dinner, for the last fifty years of his life, and died at the age of eighty-two: But a more salutary expedient would be, never to take in so much food as to create a propensity to sleep at that time of the day.

Invalids, whether from weakness, or fatigue after exercise, often express an inclination to sleep for an hour during the day; nor do I conceive that there can be any cogent objection to this indulgence being granted them: as their exhausted spirits are recruited by this recess from bodily and mental exertion, and their sleep during the night is very little, if at all, interrupted by it.

Many real or imaginary invalids, having, as they suppose, had little sleep in the course
of

of the night, offer this circumstance as an apology for lying late in the morning: But this is a very injurious indulgence, as it exceedingly enervates the body by long continuance in a hot and foul air. A little resolution will enable invalids to surmount this destructive habit; for by rising early, and going to bed in due time, their sleep will become more sound and refreshing.

It may be, and has been alledged, that those who are so unfashionable as to go to bed at regular hours, must exclude themselves from all fashionable society; they have, however, their alternative, whether they shall be *fashionably* invalids, or unfashionably in health.

§. 133. From the effects of sleep enumerated above, my readers will infer, that as regular hours are necessary to the preservation of health, so they are indispensibly necessary for the recovery of it; and that balmy repose, which suspends the distressful sensations consequent of ill health, is only to be obtained by habitually appropriating those hours to sleep, which nature has pointed out; whilst, by inverting the order of nature, we waste

waste many of those hours; which might be usefully employed, even by the opulent and independent.

It may not be improper to remind the reader, that sleep will be much more beneficial and refreshing, in proportion to the free ventilation of the bed-chamber.



C. H. A. P. V.

REGULATION OF THE APPETITES AND
PASSIONS.

Excess of Passion and irregular Appetites why injurious—how to be regulated or counteracted—Hint to the Fair Sex—to the Young of both Sexes—Passions of the Sick to be regulated—Hope and Cheerfulness to be excited.

PROP. XX. THE EFFECTS OF THE PASSIONS MUST BE DIFFERENT, ACCORDING AS THEY ARE STIMULATING OR SEDATIVE, CHEERING OR DEPRESSING, AND THE DEGREES OF THESE.

§. 134. **T**HE Passions (says Pope) are the gales of life; but if they are not happily tempered either by constitution or by education, they become the whirlwinds and hurricanes of the mind; and neither rank nor wealth can afford any compensation for their baneful influence.

It may, with truth, be asserted, that artificial wants and appetites, as they enlarge
the

the field of passion, so in the same proportion they increase our desires of gratification, and afford more frequent occasions for disappointment and mortification, than of rational enjoyment.

§. 135. The appetites and passions have a powerful influence on the body, and contribute more than is generally suspected to its healthy or morbid state.

This subject has been considered, Vol. I. Essay I. under the Natural History of the Human Mind, page 90, to the end of the Chapter; which the reader ought to peruse before he proceeds. It may be proper to observe, that as the exciting passions act on the body as powerful stimulants, so the depressing passions often produce all the effects of the most powerful sedatives.

§. 136. The only means to avoid these evils, is not to employ the mind solely in frivolous pursuits; but to strengthen its powers, and ennoble and exalt its views, by the acquisition of useful knowledge.

It peculiarly imports the Fair to recollect, that the turbulent passions injure the constitution,

tution, ruin the complexion, and destroy that equanimity, sweetness, and gentleness of disposition, which are the chief source of their pre-eminence over man, by which they conciliate his affection and esteem, sweeten his labours, and soften his cares.

I hope the fashionable youth of both sexes (if any such shall deign to read this morçeau) will not be offended at this *apparent* departure from my medical office, by commencing preacher; for though sermons by a physician would not be quite a novelty; yet it may be doubted, whether, in the present age, the imputation would not be unfavourable to its acceptance with the public.

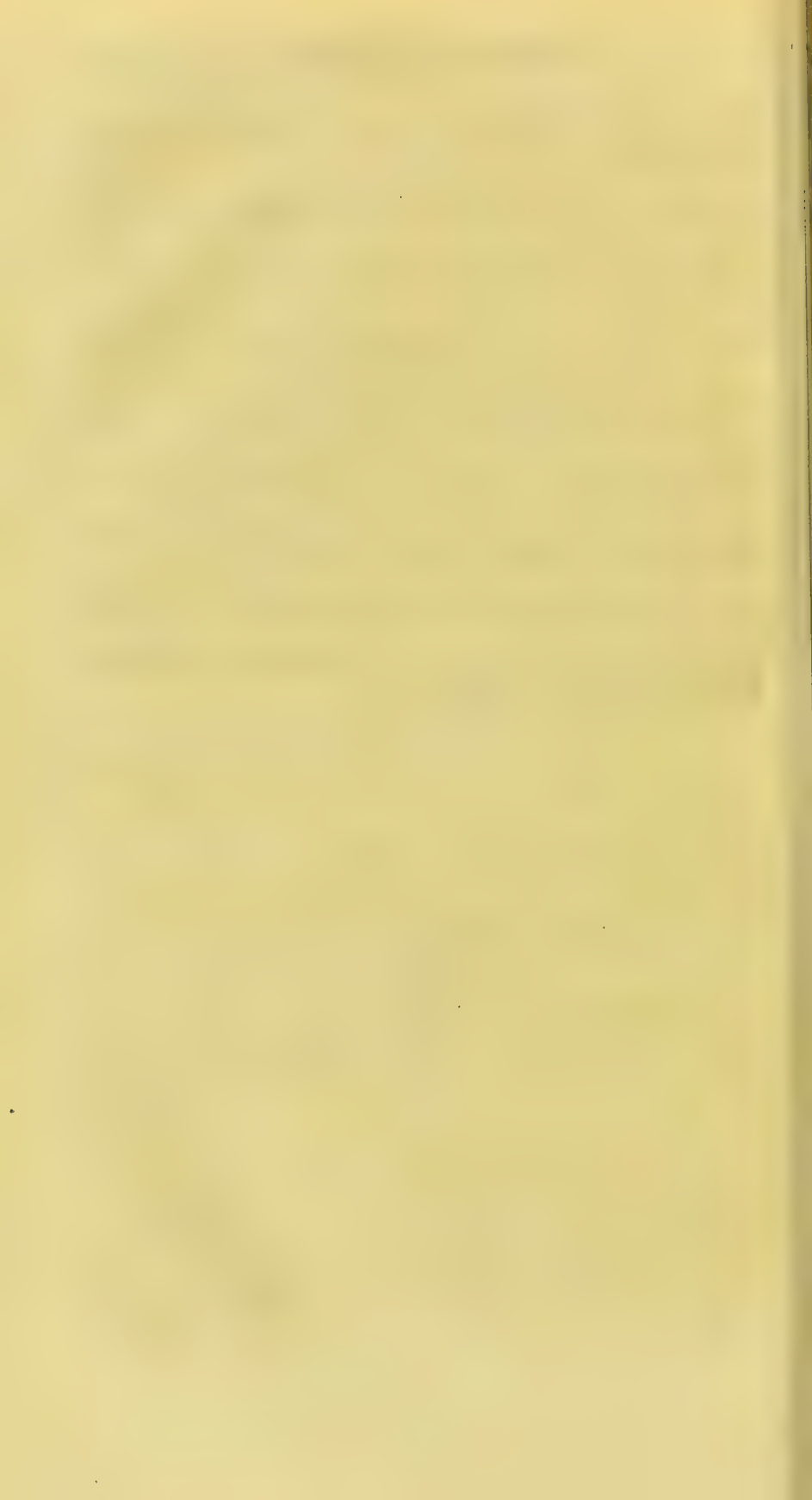
The truth is, that as strength of mind, and culture of the understanding, enable us to perform the duties, and relish the pleasures of life; so nothing contributes so much to enable us to support the evils of it with firmness, and in the same degree assists in alleviating and surmounting our bodily ailments.

§. 137. There is so intimate a connection between the mind and body, that they mutually influence each other; and hence it is
that

that bodily diseases are either exasperated or alleviated by the state of the mind. It is therefore of the utmost importance, that the mind of the invalid be sustained by hope, and cheered by diversity of amusement; and that every serious occupation and painful passion be industriously avoided.

It is for this reason, chiefly, that change of place has been so much recommended to invalids; and excursions to watering-places, beside the benefit derived from the waters, have contributed to enliven the mind of the invalid, by change of scene, and a *moderate* use of diversified dissipation.





A P P E N D I X

I.

*Containing some farther Observations on Mr. TICKELL'S Æthereal Spirit; with Practical Remarks on the medical powers of the Dulcified Acids.**

Ex quovis ligno non fiat Empiricus?

We wage not war with Bedlam and the Mint.

POPE.

HAVING made some remarks on this empirical nostrum in the Natural History of the Human Body and Mind, lately published, I am induced, by various motives, to resume the subject.

When Mr. *Tickell* the apothecary addressed a letter to Sir *Joseph Banks*, communicating

* This Appendix has been delayed as long as possible, in expectation of Mr. T.'s reply to my former remarks; and as that has not appeared, I shall endeavour to anticipate such of his objections as, it has been rumoured, he intends to make; for I certainly shall not reply in a separate publication. I have avoided the publication of the names of those Gentlemen who have supplied me with facts; but several of them have given me leave to communicate to Mr. T. if he requires it, on what authorities those facts have been advanced; for I disdain the idea of injuring even a Quack, by intentional misrepresentation.

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what he deemed to be the best manner of preparing *Hoffman's* Anodyne mineral liquor, and subjoined cases of the efficacy of this most valuable medicine, both the matter and the manner of this liberal communication did him credit; but when a man begins to swerve ever so little from the rule of right, and adopts a devious and crooked line of conduct, every subsequent act generally manifests a certain degree of depravity; therefore, since *Tickell* the Quack converted *Hoffman's* liquor into a nostrum, his conduct has been uniformly objectionable.*

I shall

* When a confidential friend of Mr. *Tickell's* told the author that he knew his quondam antagonist, *Stephen Freeman*, to be a contemptible fellow, and unworthy of notice or reply, he assured him that Mr. *Tickell* would reply *like a gentleman*; how far his prognostic has been verified, appears even from the advertised title of his pamphlet, whereby he seems to have linked himself in a mean confederacy with two of his brother-quacks. Of *Freeman*, the blacksmith and farrier, some notice is taken in the preface; the other is said to be a hireling fabricator of anecdotes, and *murder-monger* to an evening newspaper.

These three empirical *vermin*, conscious of their inability to bring forward any charge that could affect the author's moral and medical character, have undertaken the grovelling task of *nibbling* at his paternal and maternal surnames; and as quacks are professionally habituated to chicanery and imposture, it is not surprising that neither the *farrier*, nor the *murder-monger*, have, in their frivolous attacks, been guilty of uttering a single truth, except his having formerly resided at Antigua.

What

I shall make a few remarks on Mr. *Tickell's* letter to the President of the Royal Society, and shall afterwards offer some strictures on his advertisement of this nostrum, and the various means he has employed to disguise it in the *most slovenly and unchemical* manner, and close the whole with some practical remarks on the dulcified acids.

§. 1. Mr. *Tickell*, in his letter to the President of the Royal Society, does not scruple

What inference Mr. *Tickell* intends to draw from this solitary truism cannot be determined, because his long-threatened reply to the author is not yet published; but *candour* will probably infer, that his having filled some very respectable offices in that country, affords a presumptive proof that he was held in some degree of estimation.

It is to these haberdashers of small wares and trifling anecdotes, that Mr. *Pope* alludes in his *Dunciad* :—

“ The common soul, of Heaven’s more frugal make,
 “ Serves but to keep fools pert, and knaves awake;
 “ A drowsy watchman, who just gives a knock,
 “ And breaks our rest to tell us what’s o’clock.”

It would be an unpardonable insult to the publick, and an act of condescension unworthy of any man who has a character to sustain, to enter into a detailed refutation of what, *were it true*, is totally unimportant; but if this respectable triumvirate will bring forward a single well-authenticated fact, which shall arraign the author of unjust, ungenerous, or illiberal conduct, he hereby, in the most solemn manner, assures them and their informer, of entire exemption from legal question or prosecution.

to assert, *what is not true*,* that “the preparation generally, nay *universally*, sold for “*Hoffman’s Mineral Anodyne*, is no other “than an impure unrectified æther, which “consists of spirit of wine, æther, some “portion of the crude sulphureous acid, “and a very small quantity of oleum dulce “vitrioli.”

If the spiritus vitrioli dulcis be faithfully prepared, and there is no difficulty in the preparation if the operator has but a moderate share of chemical adroitness, it cannot be deemed impure for any medical purposes; because long experience has convinced me, that though it is not so concentrated as pure æther, its effects, in a proportionably enlarged dose, are as powerful as those of æther itself, in every disease in which either of them have been found beneficial; and the London College is of this opinion, for in the specimen of their new Pharmacopœia, they have directed the mineral liquor to be prepared by simple

* See the London Medical Journal for 1785, p. 337; where he has given a prescription for preparing Hoffman’s Anodyne Liquor. Mr. T. merits praise for the candour of the communication; though there are several mistakes in that letter, of which I shall take notice.

mixture (not distillation) of the common dulcified spirit with the oleum dulce.

With respect to an admixture of "crude sulphureous acid," it should seem that there is a portion of it even in the æther prepared by the accurate Mr. *Tickell*, as it corrodes cork as readily as the common dulcified spirit.

Mr. *Tickell* says, that the *oleum dulce* is *confessedly* the *basis* of this mineral liquor. By whom is this confessed? Not by *Macquer*, who, in his Chemical Dictionary, says in express terms, that the mineral spirit owes all its medicinal virtues to the æther; and it may be fairly presumed that neither Dr. *Cullen* nor Dr. *Black* considered the *oil* as a necessary addition, otherwise it would not have been omitted in the last edition of the Edinburgh Pharmacopœia. The mode of preparing the spiritus vitrioli dulcis, directed by the Edinburgh Dispensatory, is an improvement, because it obviates any accidental supersaturation by the acid, from inattention of the operator.

I confess there was a time when I thought the oleum dulce was an essential ingredient, and was therefore very solicitous about ascertaining the proportion used by Dr. *Hoffman*;

but a very expert practical chemist, whom I employed to analyze the most celebrated quack nostrums, was of opinion that this gross oil was possessed of very few active parts, and, for the purpose of a comparative trial, substituted the oil of pepper-mint; and he assured me that he found it to be more powerfully stimulant and antispasmodic than the common mineral liquor.

Were we even to admit that the oleum dulce is not destitute of aroma and stimulus, there are some cases, as I shall shew hereafter, in which the dulcified spirit would be preferable; but there would be no impropriety in directing both to be retained as shop medicines, as some practitioners may have a predilection for that celebrated physician's medicine.

Dr. *Hoffman's* skill as a chemist was very great, if we consider the period in which he lived; and he certainly had too much integrity to make a nostrum of his mineral liquor; but it is pretty evident that he did not understand the real nature of the oleum dulce, which he deemed to be the product of the vitriolic acid, and not of the vinous spirit; for I believe few modern chemists deem
it

it to be any other than a vegetable oil, the residuum of the rectified spirit; the more active parts of which have been combined with æther. Had Dr. *Hoffman* been apprised of this circumstance, it is probable he would not have considered the addition of this oil as an essential improvement of the medicine.*

To conclude these remarks on his letter to Sir *J. Banks*; I cannot avoid expressing my surprize at Mr. *Tickell's* assertion, that *æther is immiscible with water*; when every apothecary's apprentice knows, from ocular demonstration, that water will absorb the æther

* A pupil of Dr. *Hoffman's* published a dissertation *De Acido Vitriolico Vinoso*, which is to be found in Tom. IV. p. 855. The following inferences may be drawn from this essay:

1st. That *Hoffman* having treated fully of the preparation and medical qualities of the vitriolic æther, in his chemical lectures, it might be deemed superfluous to give a formula of the preparation in his works.

2^{dly}. From this author's ascertaining the quantity of the oleum dulce produced from each pound of oil of vitriol to be seven drams, we may conclude that his master conceived the oil to be a mineral product.

3^{dly}. That Dr. *Hoffman's* claim as an inventor was grounded partly on adding the oleum dulce to the æther, and partly to his increasing the proportion of the rectified spirit to six parts to one of the acid; whereas others had directed it in the proportion of one, two, or three to one; a circumstance, however, which a modern chemist would not consider as an essential improvement.

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very considerably; and it should seem that they ^{change} ~~neutralize~~ each other.

§. 2. I proceed now to make some remarks on Mr. *Tickell's* advertisement, now before me, which is drawn up in the genuine stile and spirit of empiricism. He tells us *that it has great efficacy in all diseases of the stomach.* This assertion is thrown out *ad captandum vulgus*; for even Mr. *Tickell* should have known, that the diseases of this organ are, in several instances, so opposite in their nature, that no one remedy can be adapted to all. Of this, among some others, a strong proof has lately occurred; an eminent physician having, a few days ago, been obliged to order a *gouty* patient to be bled, for the purpose of removing an inflammation of the stomach brought on by the use of *Tickell's* nostrum.

After having recommended it in diseases of the breast *unaccompanied with inflammation*, he subjoins, that in "*hectic habits* it
 "more efficaciously relieves the cough which
 "is the forerunner of a consumption, than
 "any other remedy."

I believe that physicians are generally of opinion, that *hectic* fever, when connected
 with

with visceral obstruction, especially of the lungs, indicates either that inflammation has absolutely taken place in the diseased organ; or that there is a strong propensity to this state, even in the commencement of the fever; and therefore prescribe such remedies and regimen as may obviate the impending evil; and, from my extensive knowledge of the powers and effects of vitriolic æther, I aver, that *Tickell's* nostrum must be a very unsafe remedy in a *hectical* cough; and instead of preventing consumption, may, more probably, promote the fatal tendency. Here Mr. *Tickell* seems not to have distinguished between the effects of æther and those of simple acids; the latter being often very useful in mitigating hectic heats. If the reader wishes to know my reasons for this opinion, they are to be found in page 346, &c. of this volume. In spasmodic coughs, and in such as proceed from a tough mucus in gross and cachectic habits, I have seen very good effects from the dulcified spirit of vitriol or of nitre; not, I am sure, to be exceeded by *Tickell's* nostrum.

Mr. *Tickell* tells us, that his æther has *specific* virtues in dropsy of the breast.

Though

Though the term *specific* was formerly adopted, even by some medical men of character; yet there are few physicians who, in this more enlightened age, do not consider the application of it, in its *medical* acceptation, as unphilosophical and absurd; and it is therefore given up by modern physicians, as implying something independent of the established laws and operations of the animal œconomy. The doctrine of modern therapeutics has equally exploded *specific*, elective, and infallible remedies; and as none but a *quack* would give a positive assurance of curing *even a cut finger*; so no man, who has any pretensions to medical science, would, *a priori*, assert that a medicine will produce a certain effect; or aver that, because it may have succeeded in one or two cases, it must *necessarily* produce the same good effects in all cases *apparently* similar.

A Dropsy of the Breast is an obscure, and, I believe, a rare disease, and probably often suspected when it does not exist; but no man of sound medical judgment will venture to assert, that Mr. *Tickell's* nostrum can act more *specifically* in a dropsy of the breast, than in any other species of dropsy; and I will stake the
the

the little reputation I have as a physician on the event, when I assert, that it will fail as often as the other dulcified acids, or any other celebrated diuretics.

But granting that this nostrum may occasionally and *fortuitously* discharge a dropfical collection of serum from any cavity, the disease is only palliated, not cured, as I have shewn Vol. I. Essay II.

§. 3. I come now to trace Mr. *Tickell's* nostrum through its various changes and disguises, to its present form as a patent medicine.

1st. I have seen some of the æther as prepared according to the prescription he published in 1785, and it is only a more concentrated and dulcified spirit of vitriol.

2^{dly}. Having examined a phial of this medicine, even after it became a patent drug, I found it to be without colour, the æther swimming in a portion of water, and impregnated very slightly with the smell of pennyroyal.*

3^{dly}.

* I am accused of misrepresentation, in having alledged that he has a stronger æther, which he reserves for his private practice; but this confirms it; for what I saw *uncoloured* was sent to an apothecary

3dly. To disguise it still farther, when intended for public sale, a red colour was now given to it, to conceal the separation of the æther from the water; and a larger portion of what I conceive to be oil of pennyroyal, or of juniper, was added, for the purpose of weakening the predominant flavour of the æther; but the mixture was uniform.

4thly. When Dr. *Falconer* and myself examined the phial of *Tickell's* nostrum, which was purchased for the purpose of making the experiments mentioned Vol. I. page 249, &c. we found a red liquor swimming in a greyish fluid of a grosser consistence, which seemed to be an essential oil imperfectly mingled with a watery fluid.

These different additions, enumerated above, were solely intended to disguise the nostrum; for the dulcified spirit is the only part of the compound from which any efficacy could be expected, and, so far from meliorating the medicine, it has rendered it more offensive to the eye, more disgusting to the palate and stomach, and, from the addition of a hot

apothecary for the use of a patient who had consulted Mr. *Tickell*, and of this the dose was from 15 to 30 drops, whereas that of the coloured is more than double the quantity.

oil,

oil, more unsafe in many cases; and to this addition we may probably attribute its inflammatory effects in the gouty patient mentioned above.

But, it seems, Mr. *Tickell*, not depending on his *specific* æther, bolsters it up with a *specific* pill; and it will be very hard indeed, if there is any disease which flesh is heir to, that can resist two *infallible specifics*; and yet it is more than an even chance that they will more frequently fail than succeed.

Some of the apothecaries of Bath have complained that several of their patients have deserted them, and employed Mr. *Tickell*, in consequence of an insinuation that he increases the efficacy of his nostrum by certain additions.

If this be true, Mr. *Tickell*, independent of any injury his brethren may sustain, has been deficient in his duty to the public, by not discovering every circumstance which renders his æther safe and efficacious, even in the hand of an old nurse.

The late Dr. *James*, who had more genius, learning, and integrity, than all the quacks this kingdom ever produced; and who was forced into that situation by necessity, and
not

not by choice ; was very explicit in pointing out the concomitants of medicine and regimen necessary during the use of his powder ; and from want of this precaution, empirical nostrums have often done much injury.

Mr. *Tickell*, it seems, denies his having said that he distils his æther seven times ; this might have been a mistake in the person who gave me the information ; but, having prepared his pure æther, there was no necessity for combining the oil with it by distillation ; for simple mixture is sufficient.

§. 4. It has been confidently asserted that some physicians of Bath have permitted their names to be published as vouchers for the efficacy of Mr. *Tickell's* medicine.

Though I cannot believe it ; yet admitting the possibility of it, what does it imply ? Nothing more than that a medicine which has been known, and very extensively used, during a space of sixty years ; but which has been disguised, but not improved, by Mr. *Tickell* ; has been accidentally beneficial in some cases, combined with, and assisted by, other remedies.

It

It is generally supposed, that in the case of Mr. *Orpin*, Mr. *Tickell* used the æther, the formula of which he published, combined with vinegar of squills and camphor julep; and that his success in this case suggested to him the idea of procuring a patent; and it is more than probable, that many patents have been obtained on such frivolous pretexts as the addition of one or two insignificant ingredients.

But is there a physician so ignorant of chemical principles, as, after having examined *Tickell's* disguised æther, to believe that it can possess superior powers to those of the dulcified acids? I aver that it does not.

Physicians have ever been averse from countenancing empiricism, not from any mean or selfish consideration; but from an entire conviction that all empirical pretensions are fraudulent and illegal, and productive of manifold evils to the community.

The success of empiricism may, with justice, be chiefly attributed to the indolence, timidity, or injudicious despondency of regular practitioners, who, being disappointed of their expectations from the common routine of practice, are either too indolent or

too timid to avail themselves of such expedients as shall be adequate to the singularity or urgency of the case; and by precipitantly declaring patients to be incurable before they have made every possible effort, force them to have recourse to empirics, whose temerity being equal to their ignorance, they sometimes succeed by a bold use of remedies which being pilfered from regular practice, would certainly be employed with more safety and success by men of skill.

§. 5. To render this essay more practically useful, I shall subjoin some observations on the medical powers of the dulcified vitriolic and nitrous acids.

About the year 1736, *Clutton*, a worthy quaker and chemist in London, published a pamphlet, in which he gave a formula of a febrifuge, wherein (not knowing that the acid of sulphur and of vitriol were the same) he prescribes the dulcified spirits of sulphur, vitriol, and sea salt, in equal parts, to which he sometimes joined aromatics.

When I was a very young man, I had an opportunity of remarking the very beneficial effects of this febrifuge in a variety of fevers of different kinds.

The high opinion I entertained of Dr. *Hoffman*, induced me to wish for an opportunity of giving his mineral liquor a fair trial, which I had several years after, by procuring some to be prepared by a skilful chemist according to the formula of the Parisian dispensatory. But on an accurate comparison of this and pure æther with the dulcified spirits of vitriol, nitre, and the marine acid, (the last is the least perfect) I have not been able to discover any remarkable difference in their medical powers in any other respect than that when, in cases of violent nervous pains and spasms, I wished to make a great and sudden change on the system, the æther acted more immediately and powerfully.

It is to be observed, that, in the subsequent remarks, I refer to the use of the æther, as well as the weaker dulcified acids, in chronic cases; but that in febrile diseases I never ventured to administer the æther.

1st. In fevers, whether simply remittent, or intermittent, or complicated with malignity, putrescency, or nervous irritability; I have had very extensive experience of their great efficacy, as antispasmodic, sedative, and

anodyne, in cases where the use of opium might have been deemed improper or unsafe; and I have often seen anxiety, pervigilium, and even delirium, removed by them in the space of a few hours; the term of the fever *apparently* abridged; and a compleat crisis produced in those kinds of fever, which, being commonly protracted for weeks, generally terminate imperfectly, and almost insensibly. In cases of imminent danger, however, I availed myself of other aids; especially of considerable doses of the extractum cicutæ and camphor, and either the warm pediluvium, or the whole bath.

In fevers connected with local inflammation, I did not venture on these remedies until the inflammation was in a great measure subdued; and then they were evidently of use in mitigating irritation, and procuring sleep.

In general they were combined with ipecacuanha or antimonial wines, in the proportion of 5, 4, 3, or 2 parts to one of the wines, and of this compound, from 20 drops to 2, 3, or 4 drams to a dose, was given at longer or shorter intervals; but always in gradually increased doses, according to the age

age of the patient, and the state of the stomach, and of the finer excretions.

The liberal, and almost unlimited, use of the febrifuge directed by *Clutton*, convinced me that the dulcified acids might be used in very large doses, when well diluted; and I am from experience also convinced, that the simple acids, the vegetable especially, may be gradually increased to a very large dose.

In cases of great debility, I often substituted the spiritus volatilis aromaticus, which is a kind of alkaline æther, instead of the nauseative wines; or gave these in diminished doses. I shall only add, that the dulcified, and sometimes the simple acids, are, in certain cases, excellent adjuncts to the bark; not only as aiding its powers, but rendering it more grateful to the palate and stomach.

2dly. In the very extensive tribe of chronic diseases which are either chiefly, or secondarily, connected with excessive or depraved sensibility, I have found pure æther to procure considerable, and sometimes almost instantaneous relief in violent cramps in the stomach and bowels, whether proceeding from excess of irritability, or from irregular or retrocedent gout; but I have rarely used

it of late in the latter case, since I have experienced the benefit of large doses of musk. In cases of confirmed epilepsy, it has never been more than a palliative under my direction; but in such cases as are sometimes termed hysterico-epileptic, its effects are more certain.

In nervous head-ache, spasmodic asthma and cough, hysterical and hypochondriacal affections, and in all those complaints of the stomach and bowels, which, being accompanied with sensations of nausea, constriction, anxiety, or pain, are probably the result of debility combined with morbid irritability; the sedative effects of the dulcified acids are sometimes very considerable, when administered in doses from one to three drams, either combined with the volatile spirit, the nauseative wines, or used alone: Sometimes I have combined these with tinctura thebaica in various proportions, either to obviate a disagreeable sensation which large doses of the dulcified acids sometimes produce in the stomach; or to increase their anodyne, diuretic, and sudorific power.

P. S. I had

P. S. I had so compleatly anticipated Mr. *Tickell* in the Appendix, that on a perusal of his pamphlet, *alias* his quack advertisement, neither his cases, allowing them to be genuine and fairly related, nor his reasonings, such as they are, have made any other impression upon me, than to convince me of his finessè and duplicity, and to confirm my former opinion, that his present nostrum is essentially the same with that he published in the Medical Journal. A variety of concurring circumstances will, I believe, convince every impartial reader, that this is the case.

1st. In his letter to Sir *J. Banks*, having given two very strong cases of the efficacy of common æther, he adds, “ If æther is capable of producing such effects, what may not be expected from a genuine preparation of *Hoffman’s* anodyne liquor?” and subjoins his formula for preparing it; but I have brought forward more respectable authorities than *even* Mr. *Tickell’s*, to prove that his preparation is inferior in activity and efficacy to common æther.

2dly. He acknowledges in his pamphlet, that he is indebted to Mr. *Wolfe* for the fa-

cility with which he prepares his æther ; and it is highly probable that Mr. *Wolfe* communicated to him that very formula which he published.

3dly. When he determined to commence nostrum-monger, he repented of having been so communicative, and to obviate the suspicion of its being the same, he now tells us, that the formula *was given on conjecture* ; plainly intimating by this that he had never tried it. But is this probable ? when I know that before or about that time, he sent some parcels of it to some of his brethren, recommending it to a trial.

4thly. Notwithstanding his empirical boast of improvement by a peculiar mode of distillation, I have the most positive evidence that my own senses, and those of several other medical men, could afford, that the mineral liquor prepared in London from his formula, his uncoloured æther, his coloured æther which makes no deposit, as well as that now at the hospital, which does, are essentially the same ; for notwithstanding the colouring matter, and the essential oil, added merely as a disguise, the æther strongly predominates both to the smell and taste.

It

It will not be unfair to ask Mr. *Tickell*, for which of those preparations of his æther, which he dispenses to his own patients, or vends as a nostrum, he took out his patent? All of them, though different in their sensible qualities, were delivered by himself, and therefore could have undergone no adulteration. It should seem, from these circumstances, that he has made various alterations since he gave in his specification, and, in strict justice, has therefore forfeited his patent; and it is certain that the four specimens I have seen (and there may possibly be forty) are, in the opinion of good judges, different *only* with respect to the proportions of æther, and of the disguising ingredients: What dependence therefore can be placed in a medicine which undergoes such a variety of changes?

Every person, even of a moderate share of chemical knowledge, must know that no art of *Tickell*, or rather of Mr. *Wolfe*, can render his æther more pure or powerful, than the common æther duly prepared, nor will any medical man of skill believe, that any other article of the materia medica is of such superior power, as that in so small a dose of
the

the compound it can possibly increase the activity of the æther, but the reverse.

Admitting the accuracy of Mr. *Tickell's* cases, his celebrated brother, *Graham*, has given a much greater number of strong cases of the powers of common æther; and I do, from experience, firmly believe, that it is a more powerful medicine than *Tickell's* nostrum.

If Mr. *Tickell* had been candid, he would have given us the cases in which his specific failed; which probably are more numerous than those in which it has succeeded.

With respect to its boasted diuretic powers: besides those patients who took it at the hospital, several others have used it long without any such effect. It is well known that cremor tartari, or a draught of cyder or water, have produced a most copious diuresis in dropsies, when the most powerful diuretics have failed; and yet in other cases none of these have had the least effect; and this, for reasons obvious to every physician, must ever happen.

In a note to page 173, a *certain* physician is brought forward as having a conversation with another medical man, in which he indirectly,

directly, but reluctantly, vouched for the efficacy of *Tickell's* nostrum.

From the strong similarity of the circumstances of this conversation, with what was related to me by an eminent physician here, there is every reason to believe that he alluded to the same case. That gentleman having remarked that *Tickell's* medicine had not manifested any diuretic powers, did not say that the patient was either cured or *greatly* relieved; but simply that she had been relieved; but there is a circumstance which Mr. *Tickell* either knew not, or has suppressed, that she was more relieved by *Turner's* æther than by *Tickell's*.

If I am not exceedingly mistaken, that *certain* physician, who at *least* merits some share of those respectable epithets with which a *certain* quack has servilely beplastered his patrons, is the gentleman Mr. *Tickell* and I allude to; and who, though he has not seen a single instance of its being more beneficial than the other dulcified acids, has met with several instances of its inefficacy, and one decisive proof of its being injurious.

I have not spoken invidiously, but truly, of Dr. *James's* powder. I knew and respected the

the Doctor as a man of genius and learning, and was sorry he debased his character and talents by placing himself on the same form with illiterate and ignorant knaves. When in consultation with physicians, he never concealed the mode of preparing his powder, if an explanation was necessary to obtain the confidence of the prescriber.

I have not been inconsistent in the paragraph quoted page 169. As quack medicines are all pilfered from regular practice, a physician may gratify a patient in the use of them, provided he superintends their operation; but this is always rather a matter of concession to the prejudices of the patient, than of necessity with respect to his safety; but the reason why all nostrums ought to be discouraged, is, that the pretended inventors are in general grossly ignorant even of the powers of their own nostrums; and they are moreover made use of by persons who are equally ignorant of the nature of their own diseases, and of the fitness or unfitness of the nostrum they take: an instance of this occurred with respect to the gouty patient alluded to above, and has happened in other cases, wherein quack medicines have been injurious.

ous. The danger of misapplying these nostrums is so much the greater, as they are often very active and powerful, and therefore may do much mischief in unskilful hands.

Independent of Dr. *Lewis's* authority, that *Hoffman* used the dulcified nitrous and vitriolic acids in cases similar to those in which he prescribed the mineral liquor, I well recollect, that the fact is properly stated; but it is so unimportant, that I have not leisure or inclination to run through six folio volumes in quest of the cases.

Whatever may be my *just* pretensions to the epithet of *learned*, which *Tickell* so emphatically bestows upon me, I have never made an ostentatious display of it: but it is probable that even his *very learned* patrons may not be able to produce from my publications any proof that I am *unlearned*.*

My works are before the tribunal of the public; but I will not allow Mr. *Tickell* to be in any respect a competent judge of their

* It has been whispered that the pamphlet is not *solely* the production of Mr. *Tickell's* pen; it is to be hoped, however, for the credit of the profession, that the base and absurd personal attack is solely and exclusively the illiberal effusion of *Tickell* and his brother quack. [See some remarks by anticipation, on this subject, in a note at the beginning of this Appendix.]

merit or demerit, not only as he is an interested and enraged quack; but because I have clearly proved that his ignorance of the first principles of medical science is so gross and palpable, that it would scarcely be excusable in an apothecary's apprentice.*

Mr. *Tickell* has been more out of luck in discovering the sources from whence I drew the materials for my last publication, than I have been in detecting his imposture; but independent of those opinions and observations, which by much better judges than *Tickell* have been deemed to be original, there was a source of knowledge which neither *Tickell*, nor even some of his very learned patrons, ever had recourse to: a regular medical education, at the only university in the British dominions where it could be acquired.

With regard to the last edition of my *Medical Cautions*, howsoever it may be depreciated by ignorant and incensed quacks; the opinion of much better judges, and the very rapid sale of the work, afford a better criterion of its merit, than *Tickell's ipse dixit*.

* See my remarks on his advertisement.

He and his drivelling champion, the murder-monger, are such egregious dunces, as not to distinguish the *obvious irony* of those paragraphs of my preface; some of which those wiseacres have quoted as damning proofs of my exuberant vanity and arrogance.—*Excellent Critics!*

The ingenious physician, to whom *Tickell* alludes in his last page, has had no reason to complain of the reception his very learned and useful works have had from the public; and from the large share of practice he has long been engaged in, it is evident that the public has had a very just sense of his merit as a physician.

N. B. Since the Appendix went to the press, I received a letter from a medical student at Edinburgh, containing the following paragraph, which *Dr. Falconer* has also seen:—

“I waited on Drs. *Cullen* and *Black*, whose answers I now transmit.

“*Dr. Cullen* told me he was the first person in Scotland who prepared the vitriolic æther; and though there is no considerable difference between *Hoffman's* anodyne (prepared by
adding

adding the oleum dulce) and the æther as prepared by the formula of the last Edinburgh dispensatory, yet he considers the latter preparation to be undoubtedly preferable as a medicine. Dr. *Black's* opinion perfectly coincided with that of Dr. *Cullen*."

I can vouch for the fidelity with which those gentlemen's opinions have been reported. The following inferences may, I think, be fairly deduced:—

1st. That no man of common sense will believe that *Tickell's* skill as a chemist can, in any degree, be put in competition with that of Drs. *Cullen* and *Black*.

2^{dly}. That *Tickell's* formula for preparing *Hoffman's* mineral liquor, in the London Medical Journal, is not an improvement, but the very reverse; as the addition of an almost inert oil must clog the activity of the æther.

3^{dly}. As *Tickell* asserts, that the superiority of *Hoffman's* æther depended on this oleum dulce, it may be fairly presumed, if it is not absolutely certain, that he would not omit the addition of this oil in preparing his own æther, which he now vends as a patent medicine; and therefore, thus clogged with this oil,

oil, and another essential oil for the purpose of disguising it; not to mention a portion of water with which it certainly is miscible in some degree, it is really less active and powerful than the common æther; and consequently he has imposed on the public by vending an adulterated and weaker æther than is to be found in every apothecary's shop.



A P P E N D I X

II.

A PHILOSOPHICO-MEDICAL ESSAY ON THE
PRINCIPLES OF THERAPEUTICS.

C H A P. I.

*Therapeutics what—this Branch much neglected
—Therapeutic System grounded on a Know-
ledge of Diseases and of the Materia Medica
—Nature and Objects of Therapeutics ex-
plained—by Example—Principles of this
Branch why so difficult of Attainment—Di-
vision of the Materia Medica on this Plan.*

THE term *Therapeutics* is derived from a Greek verb, which signifies to minister to, or heal.

Though no branch of the medical art can be more important; yet none has been so much neglected. Holding a middle place between nosology and the materia medica, it connects them together; and without this
connecting

connecting medium, it will be impossible to render the practice of physic either safe or successful.*

In every treatise on the practice of physic, and the materia medica, therapeutical reasonings are employed; but they are only loose and desultory references from diseases to remedies, and from remedies to diseases.

A very ingenious physician, Dr. *Duncan*, has published *Elements of Therapeutics*, as a text book; and it is very much to be regretted that he has discontinued his lectures on this most important subject, highly qualified as he is for the task.

As the formation of a system of Therapeutics must depend on our opinions concerning the proper arrangement of the classes of morbid affections on the one hand, and of the materia medica on the other; and as there are some circumstances with respect to

*I have always been of opinion that, instead of connecting this branch with the Professorship of the Institutes of Medicine, it might be more properly taught by a Clinical Professor, and the explanatory examples taken from the cases of the hospital patients. A course on this plan given by one physician in each hospital, especially in the metropolis, would afford inexpressible advantage to young physicians and apothecaries, as it would necessarily guide them to a scientific, a rational, and a successful mode of practice.

both, in which I do not entirely accord with preceding writers; this treatise was to have had a place in the first volume, but was, by accident, omitted; I have therefore subjoined it to this; and it will be of use in explaining my doctrines of pathology and regimen, by pointing out the connection between the morbid affections and the *materia medica*. In conformity to my own ideas, I have divided the *materia medica* into three grand classes; and have taken occasional notice of some of the ordinary subdivisions adopted by other authors, for the purpose of shewing what connection there is between other systems and mine.

I wish it to be understood, however, that this is only a short sketch.

Before the principles of Therapeutics can be understood, it will be necessary that the general nature of morbid affections be known; and of these I have given the outlines in the former volume; and it will be equally necessary that the qualities, operations, and effects of each individual article of what are called medicines, and of regimen, be well understood. For the former I refer to writers on the *materia medica*; as to the latter, I flatter

The doctrine of Therapeutics will be best explained by a familiar example.

If a patient is seized with sickness and vomiting; I endeavour to distinguish, among a multiplicity of the possible causes of this symptom, the cause of the vomiting. If I discover that it proceeds from some food which has disagreed with the stomach, this is called the *indicans*, or that circumstance which points out the nature of the complaint. The next step is to determine on what therapeutic principle, deducible from the nature of the disease, former experience, and a knowledge of the materia medica, this symptom is to be removed; and from all these I conclude that the offensive cause ought to be discharged by the most natural outlet, in the most

“ matter of fact, but endeavour to penetrate into the motives or
 “ efficient causes of such facts, in order that they may be quali-
 “ fied to judge where they are to make exceptions to general
 “ rules.” The observation of this great philosopher is strictly applicable to the use of theory in medical investigations; and I do, from long experience, most earnestly recommend to young medical men of every denomination, that they constantly employ reasoning, founded on accurate analogy, in the application of the principles of medicine as a science, to the practice of it as an art. For even where the analogy, as sometimes happens, may be incomplete, from a want of sufficient data, their errors will be but trivial, compared with those of men who, relying on bald experience, never reason at all upon the subject.

speedy

speedy and effectual manner: This is termed the *Indicatio*. The particular means by which this indication is to be complied with, are next to be considered. There are two kinds of evacuants by which the contents of the stomach may be carried off, viz. emetics and purgatives. If I prefer the former mode, as most expeditious; I next consider what is the particular instrument or means which will be fittest for this purpose, whether a few draughts of warm water, or a dose of ipecacuanha, emetic tartar, &c.; and this choice of the individual article of the materia medica, is termed the *indicatum*, or the particular remedy pointed out.

There are certain rules and cautions necessary to be observed in the use of the remedy now selected, with respect to dose, time of giving the medicine, the means of promoting the operation, &c. all of which are to be revolved in the mind, and determined upon. But some circumstance in the state of the patient may make this mode of relieving him improper, though on general principles it may be the most proper; and this is called the *contraindication*, or that therapeutic principle, by which, after com-

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paring all the advantages and disadvantages which may result from the use either of any vomit, or of a particular vomit, the conclusion is, that it will be safer to omit it; and have recourse to some other means.

This example shews, that it is only by a series of accurate reasoning and deduction, that therapeutic principles can be formed; and that medical practice can neither be safely or successfully conducted without it.

The principles of therapeutics are more difficult of attainment, on account of the great variety of circumstances which are to be taken into consideration; partly arising from the nature, degree, obscurity, or complication of the disease; and partly from the complicated operation of almost every article of the materia medica; the difference between their immediate and secondary effects, and between the impressions they make on the nervous, circulating and secretory systems; which, especially in a diseased state, are not always in unison, or, in other words, are not subjected to the same laws of impression from the operation either of medicine or of diet.

The

The various articles of the *materia medica* and of diet, may be divided into such as change the solids, or the fluids.

We may divide the changes made on the solids into *mechanical* and *animating*.

Those which act on the fluids may be considered under the general term *alterant*.

Thus, upon the present plan, the whole *materia medica* is brought under three heads or classes, each of which admit of various subdivisions into orders and genera; in the consideration of which I shall endeavour to render my examples as practically useful as the brevity of my plan will permit; for an ample discussion of the subject would occupy volumes.

Though the medical powers of regimen are, generally, very inferior to those of medicine, yet I have given them a place here, after medicine, merely to shew the connection between them: Some of them, however, may be employed to important medical purposes; and it would redound to the benefit of mankind, if they were more frequently so employed.

In forming a new system, the author has a right to chuse his own terms, provided he explains

explains them properly; here, to avoid circumlocution, I have employed the general term POWER, which implies quality, operation, or effect; and to that the mode by which that power is exerted is prefixed, as animating, mechanical, or alterant, being the titles of the three classes. The division of the orders and genera will occur under each class; and some of the most powerful of the species are taken notice of under the examples.

To explain the operation of medicines on the body, we must consider it as relating to the changes made on the *living* or animated solids, or such as are endued with sensation or feeling; and such as are made upon them as *dead* fibres, independent of the nervous energy; and the latter change may be termed *mechanical*: and such as are made on the fluids, which may be termed *alterant*.



C H A P. II.

ANIMATING POWERS.

Animating Powers what—Motion the Source of Life—Stimuli what—every Organ has its peculiar Stimulus—Stimuli unnatural or preternatural—tonic, clonic, and paralytic, what—Stimulants what—their different Genera—Sedatives what—their different Genera—neral Reflections on their Medical Application.

THE term *animating* means simply any article of the *materia medica* which acts primarily on the living principle; or that by which sensation and motion are produced; and by which life itself is supported. This term does not however imply, that either sensation or motion are thereby always excited or increased: for (as has been shewn Vol. I.) they being often, under disease, exorbitantly increased, the restoration of health depends on their being reduced to their natural standard.

Before

Before we enter on a consideration of the *orders* of this class, it may be proper to lay down a few general positions:—

1st. That motion is the source of life.

2^{dly}. That there must be some physical cause, by which this motion is excited and supported.

3^{dly}. That this cause, which may be properly termed *stimulus*, spur, or exciting cause, subsists in health; and may be deemed the *natural* stimulus; and, (as has been shewn Vol. I.) that each organ has its proper stimulus.

4^{thly}. That when the qualities of the *natural* stimuli are changed; or another stimulus is added, the motions of the organs may be morbidly increased; and therefore such stimulus will be preternatural.

5^{thly}. That when the natural stimulus does not act with its wonted power, or some accidental cause acts so as to weaken the powers of sensation or motion, or both, the motions of the organs may be morbidly diminished.

6^{thly}. From the premises, it appears, that the distinctions of tonic, clonic, and paralytic, established by authors, are well founded; the

tonic

tonic implying constant contraction or *spasm*, an example of which we have in *cramp*; the *clonic*, or alternate contraction and relaxation, an example of which we have in *convulsion*; the *paralytic*, or a deficiency of motion, as in various kinds of *palsy*; and that these various morbid affections of motion, being connected with different degrees of excessive, depraved, or deficient sensation, may affect every organ endued with sensibility or feeling.

ORDER I. STIMULANTS.

After what has been said, it need only be observed, that the term means such articles of the *materia medica* as excite or increase sensation, motion, or both.

PROP. I. WHEN DISEASES PROCEED FROM, OR ARE CONNECTED WITH, VARIOUS DEGREES OF LANGUID OR DEFICIENT POWER OF MOTION, SUCH MEANS ARE INDICATED AS MAY EXALT THAT MOTION TO THE STANDARD OF HEALTH.

This general proposition comprehends several genera.

Gen. I. Such remedies as make a quick, but not a lasting impression on the system.

Examples

Examples of this genus we have in vitriolic æther, and volatile aromatic spirit.

Gen. II. Such as act less instantaneously, but more permanently, on the organs: Examples of which we have in aromatics, spices, and their essential oils, as oil of cinnamon, &c.

Gen. III. Such articles of the dietetic tribe as are endued with an exhilarating and intoxicating power; as all the fermented drinks, especially generous wines and ardent spirits.

Gen. IV. Such foods as are deemed stimulant. See Table II.

Gen. V. Such articles of the materia medica as, when applied externally, produce a sensation of heat, and an increase of sensation and vital motion: such are, friction, (especially with any of the stimulants, Gen. I. and II.) stimulating cataplasms, blisters, and electricity.

The mode by which the different genera of stimulants seem to act is by an immediate impression on the nerves of the organs with which they come in contact; and through them, by sympathy, conveyed to the brain and heart, and the systems connected with them; and excite a temporary artificial fever.

With

With respect to internal remedies, it is probable, that their primary impresson is on the nerves of the stomach, because their effects are often so instantaneous, that it is impossible they could have reached distant organs in the course of circulation. With regard to their heating quality, may they not act potentially, by throwing a certain portion of extricated fire into the system?

The intoxicating quality of Gen. III. may be partly owing to their fixible air, partly to another principle not well understood.

Examples of their operation in diseases may be deduced from the effects of vitriolic æther in nervous lowness and sinking;—of the essential oils, wine and brandy, in fainting, from defective power of the heart, and consequent languor of circulation;—of the vigour which stimulating foods impart to a hungry person;—and the effects of sinapisms and blisters on palsied limbs.

Their effects on the mind are according to the nature of the stimulus, exciting grateful, exhilarating, or painful sensations.

Stimulants are, *in general*, contraindicated in all diseases where the action of the heart and arteries is so much above the healthy standard,

standard, as to render the circulation of the blood rapid and impetuous, as in high and inflammatory fevers; profuse hæmorrhages, &c.

ORD. II. SEDATIVES, *as the term implies, are such as mitigate or abate morbid motion.*

The remedies of this order act also on the living or animated solids.

PROP. II. WHEN DISEASES PROCEED FROM, OR ARE CONNECTED WITH EXCESS OF MOTION, SUCH MEANS ARE INDICATED, AS MAY REDUCE THAT MOTION TO THE STANDARD OF HEALTH.

This general proposition comprehends a variety of circumstances, which will be explained under the different genera.

Gen. I. Such as act primarily on the nervous system by a quick and strong, but not lasting impression; and thereby restrain inordinate motions in the nervous system; hence the effect of æther in a cramp of the stomach, and of musk in convulsions. Here one strong stimulus is opposed to another.

Remedies of this genus may also be termed *antispasmodics*; and here it may be remarked, that as all affections of the system, commonly called *nervous*, are connected with weakness
of

of the nervous power, antispasmodics are of different kinds, sometimes acting by a stimulating power, as happens from this and some of the following genera, and sometimes by a directly sedative power, as will be explained hereafter.

Gen. II. Such means as by exciting grateful sensations in the nerves of the stomach, counteract the ungrateful morbid stimulus, either immediately, if the stomach is affected, or by sympathy, if the morbid affection is in a remote organ; and in this way we may account for the good effects of dulcified spirit of vitriol, oil of peppermint, or brandy, in hysterical, hypochondriacal, or gouty nausea, spasmodic colic, and nervous head-ach.

Gen. III. Such remedies as by creating an ungrateful sensation may counteract that which is morbid. On this therapeutic principle, a large dose of asafœtida, camphor, or of the oleum animale, is given in an epileptico-hysterical paroxysm; a blister, or the electrical shock, to remove spasmodic pains; and dashing cold water on the extremities, to remove spasmodic or inflammatory constipation.

Gen. IV. Such means as, being possessed of a lenient, soothing, or anodyne power, mitigate

mitigate disagreeable sensations of the nerves of particular organs, either by contact or sympathy. Hence the effects of a tepid oily poultice applied to an inflamed boil; of tepid oily injections in colics, dysentery, inflammation of the kidneys, &c.; and of the warm pediluvium, fomentations, or a whole bath of water or oil, in tetanus, fever, or inflammation. On the same principle we may account for the operation of tepid emollient gargles in an inflammatory sore throat; mucilaginous gargles and drinks in apthous incrustations of the mouth, throat, and intestinal canal; the steams of warm water to mitigate cough; and tepid softening fomentations, and cataplasms, to abate the pain of inflamed wounds and ulcers.

Gen. V. Such remedies as, in various degrees, lessen or blunt sensibility both of body and mind, by producing a certain change in the brain and general nervous system, which has not been well explained. Hence the benefit derived from the use of *Hemlock* in nervous, febrile, inflammatory, and cancerous irritation. But of all this tribe *Opium* has the most direct and powerful effect in lessening sensibility; because, in a large dose, it
will

will destroy it, by bringing on a fatal torpor. This drug seems to have a compound operation, first that of an exhilarating stimulus, and secondly, that of a sedative narcotic; but the latter has not yet been satisfactorily explained. The same quality resides in various other vegetables as well as the poppy, as in the cicuta, aconite, stramonium, &c.

Happy would it be for mankind, were the safe and successful use of this celebrated drug accurately ascertained; but though volumes have been written on the subject, it is still left involved in obscurity and uncertainty.

Medical men are more embarrassed with respect to the use of opium in *febrile* diseases, than in those of any other class: I shall here offer a hint on that subject.

I have already remarked, that the nervous and circulating systems are not, in disease, always subjected to the same laws of impression; or, in other words, that such means as may mitigate nervous irritability, may increase morbid irritation in the circulating system—An example may explain this.

A, a delicate irritable woman, labouring under a nervous fever, suffers exceedingly from anxiety, pain, watchfulness, &c.

H h

B, a young

B, a young plethoric woman, has similar symptoms in a fever of an inflammatory type.

C, an athletic man, labours under similar disagreeable feelings under a pleurisy.

How does it happen, that opium given to A. will abate all the disagreeable sensations, without increasing the fever; whilst, though it may mitigate the uneasy feelings of B and C, it will exasperate the fever?

Because, in A's case, the nervous and circulating systems are, as it were, in unison; that is, both below the standard of healthy exertion. In B the plethora, increased by febrile heat and rarefaction, forces the circulating system upon high and strong exertions; and in this state of the circulation, the nerves also undergo an extraordinary degree of tension. In C, all these circumstances concur from inflammatory irritation.

The most direct and immediate operation of opium on the circulation, is by its stimulating power, similar to that of wine; and therefore it increases the plethora, rarefaction, and fever; which, together with a diminution of the secretions and excretions, the consequence of its narcotic power, must contribute

contribute to support the inflammatory disposition, and exasperate all the symptoms. But if by the means suggested under the following genera, we reduce the vehemence and rapidity of the circulation, the use of opium, if strongly indicated by symptoms of great irritation, may be admitted with safety; because the state of B and C is not *now* very different from that of A.

From not attending to this distinction, I have seen many untoward consequences, either from the premature administration, or the neglect of opium, wine, and other nervine stimulants; for rashness and timidity are equally the result of ignorance of Therapeutic principles.

Many years ago a pleuropneumony was epidemic in one of our West-India colonies, and was very fatal.

Some died in consequence of sphacelus from the violence and rapidity of the inflammation; others sunk under the large bleedings, deemed necessary to suppress the inflammation; but several of my patients were saved by the liberal use of salt of harts-horn and opium, suggested to me by a gentleman, the father of a very able and

respectable physician of this city.* If this medicine had been administered during the early stage of inflammation, it would certainly have increased the disease; had it been neglected at the critical period, the patient would have sunk under the complicated evils of irritation, debility, and want of sleep.

I have since that time administered opium with advantage, in various species of febrile diseases; and the late very celebrated *De Haen* has recommended the use of it in pleuropneumony; but it is a very nice point of practice.

Before I quit this interesting subject, I shall subjoin a few remarks on the use of opium.

1st. As its immediate effect is that of a stimulant or cordial, when we wish to employ it for this purpose either in febrile or chronic lowness, where there is no considerable irritation, small doses only are required; and in this way I have combined it with the dulcified acids, volatile aromatic spirit, and (for the reason I shall presently assign) the ipecacuanha wine; and have found it very

* Dr. Frazer: "Sequitur patrem passibus æquis."

useful, not only in the fevers called nervous, but in those irregular little fevers, which are often connected with chronic weakness.

2dly. Whatever increases the determination to the surface, so as to increase perspiration, or procure sweat, renders the use of opium more safe, and *generally* more successful. Hence patients bear larger doses of opium in Dover's powder, than alone; as the ipecacuanha counteracts that quality, by which it locks up the secretions and excretions.

3dly. Opium is, under certain circumstances, equally well adapted to promote or restrain evacuations, when the morbid cause depends either on spasm, or painful irritation, or both; hence the benefit of opium in the colica pictonum and dysentery; in the latter the use of it requires caution.

4thly. When morbid irritation is very great, and opium is proper, the dose, how apparently large soever it may be, must be adapted to the degree of irritation, otherwise we shall be disappointed. Thus I have known a scruple of opium, in one dose, produce very little sedative effect in tetanus; and an under dose of this drug has often increased

watchfulness and delirium, both which an adequate dose would have removed. How is this adequate dose to be ascertained? By gradually increasing it, and carefully watching its effects; and thus administered by a man who prescribes upon sound therapeutic principles, it cannot be injurious, and may often produce the most salutary effects.

Gen. VI. Such means as, by increasing the firmness and tension of the *dead* fibre, lessen, in the same proportion, the morbid sensibility of animated organs.

The *mechanical* operation of certain medicines will be explained in another chapter; but as they may, secondarily, have a sedative operation on the nervous system, it will be proper to take notice of that operation here.

I have remarked, Vol. I. p. 133, that for the purpose of enabling the nerves to do their offices properly, they ought to be duly sustained by the *dead* fibres with which they are intimately connected. Therefore if the dead fibres are too weak, lax, or flaccid, such remedies as mechanically increase their firmness and strength, necessarily increase the steadiness and energy of the nerves with which they are interwoven: hence we may account
how

how the Peruvian bark, and other astringents and corroborants, are so beneficial in certain nervous diseases, and in ague, which is, in a great measure, a nervous affection.

Gen. VII. Such means as, by diminishing the tension of the blood-vessels, either in general plethora, or in particular organs, lessen the consequent tension of the nerves which are thereby over-stretched. Hence we can account for the benefit resulting from the use of sedative diet, or even sometimes of bleeding, to obviate or remove hysterical fits in young women full of blood, or where the overtension of the vessels is confined to one organ; and hence I have known epileptics, who, by intemperance, have brought on a temporary fulness of the vessels of the brain, and severe fits, have had them less frequently and severely, in consequence of using purgatives and low diet.

Before we proceed to the other genera, it may not be improper to make a few general reflections.

1st. All the genera hitherto enumerated may be deemed what are commonly called nervous or *nervine* remedies; because, in the diseases in which they are most beneficial, affections

affections of the nerves constitute the chief part of the disease.

2dly. From the variety of means, in some measure of opposite natures, stimulants and sedatives, grateful and ungrateful remedies, high and low diet, and even evacuations, we may see the absurdity of supposing that any particular remedies can be deemed *specific*; and the danger of that routine practice which is suggested by general terms, and which are commonly vague, unmeaning, or improper.

With respect to contraindications to the use of the particular genera, these may be easily comprehended, by considering their particular powers and operations.

Gen. VIII. Such as abate and reduce the force of the heart and arteries, by lessening the quantity of the fluids, as bleeding and other evacuations.

The individuals of this class are indicated in all diseases in which the force of the circulation is too strong and rapid; hence the use of bleeding in high and inflammatory fevers, and in profuse hæmorrhages, when they are produced by febrile commotion.

They are consequently contraindicated in all diseases in which the quantity of the circulating

lating fluids is too small, and the vital powers weak; and hence improper in particular kinds of hæmorrhage, which are the effects of debility and relaxation of the solids, rather than of painful irritation.

Gen. IX. Such articles of the *materia medica* as excite a certain uneasy sensation in the stomach, termed nausea or sickness.

They are indicated in all diseases of violent and irregular commotions of the circulation: hence their use in fevers, those especially which are high and inflammatory. What effect have these nauseatives on the nervous system? Their direct and immediate effect is a temporary depression of the nervous energy; but as many morbid affections of the nervous system proceed from spasmodic or convulsive motions of particular organs, they often produce very salutary effects by a counter stimulus: hence the efficacy of a dose of *vitriolum cæruleum*, or of *cuprum ammoniacale*, in suspending or diminishing an epileptic fit.

They are contraindicated in great nervous or inflammatory irritability of the stomach.

This and the preceding genus will be considered more fully under the next order.

Gen. X.

Gen. X. Such as, by a potentially cold impressi^on, either in the stomach, or on the surface of the body, diminish or extinguish morbid heat. We may form a tolerable idea of their mode of operation from the effects of simple acids, nitre and other neutral salts, cold water and ice, in the stomach of a patient labouring under excess of febrile heat; and from similar effects of cold air in such cases, when applied to the surface of the body and lungs.

As it is probable, that what are called heating remedies may throw a quantity of extricated fire into the body, may not cooling remedies act by reducing part of this fire into a latent or fixed state?

These means are contraindicated, when the powers of the circulation and heat of the body are below the natural, and the nervous system is weak, either from excessive or defective sensibility: hence they are improper in hysterical and hypochondriacal cases, where there is a defect of nervous tension, and in diseases where there is a deficiency or total loss of sensibility, motion, or both, as in different degrees of palsy; and in all those diseases which depend on great debility of the
vital

vital powers, as in low fevers, agues, cachexy, and dropfy.

Gen. XI. Such means as by a soothing power mitigate disagreeable febrile sensations from heat or other effects of morbid irritation; hence the effects of tepid pediluvium or whole bath in fevers. See Gen. IV.

Gen. XII. Such articles of diet, &c. as are sedative. See Essay V. chap. 12.

Before we close this long chapter, it may be proper to draw the following inferences:

1st. That some of the preceding genera are equally well adapted to mitigate morbid affections, both of the nervous and circulating systems.

2^{dly}. That all those genera usually termed *nervine* may be employed with safety and success in what are termed low fevers, whether nervous, aguish, remittent, eruptive, malignant, or putrid.

3^{dly}. That in advanced stages even of high and inflammatory fevers, they may become beneficial, when the force of the circulation is considerably reduced.

CHAP. III.—ORD. III.

DERIVANTS.

Derivants what—they act chiefly on the living Principle—some increase natural Evacuations—why so uncertain in their Effects—some promote preternatural Evacuations—in what Diseases indicated—their Mode of Operation explained and exemplified—Derivants without Evacuations, their Operation exemplified.

PROP. III. WHEN DISEASES PROCEED FROM, OR ARE SUPPORTED BY, MORBID DETERMINATION TO OR FROM CERTAIN ORGANS, SUCH MEANS ARE INDICATED AS MAY RESTORE THE BALANCE OF CIRCULATION, SECRETION, AND EXCRETION.

REMEDIES' of this order are so far connected with the two former, that they act chiefly on the living or animating principle, and therefore belong to this class.

I have remarked, Vol. I. page 115, that, in health, every organ has a certain quantity of blood determined to and from it, according to established laws of the circulation ;
and

and this also is the case with respect to the distribution of the nervous power: hence the metaphorical term used by physiologists, of a balance in those systems.

As many diseases of the nervous system proceed from a loss of this balance; as in spasms and convulsions; so many morbid affections of the circulation are owing to faults of determination; and therefore a deviation from this balance, in consequence of too large or too small a portion of blood being distributed to particular organs.

To prepare the reader for understanding the following remarks, he is requested to see what is said on the subject, Vol. I. page 142, 203, &c.

With respect to the title of this order, it is adopted to express those powers of certain medicines, by which they divert the current of circulation *from* organs to which they have been determined, either with too much force, or in too great a quantity; or [which derive that current *to* organs in which the determination is not sufficient.

The most powerful of those determinations are such as increase the natural evacuations, or produce such as are preternatural;
as

as bleeding, &c.; others act without any *apparent* discharge, but may nevertheless produce very powerful changes in the internal secretory and excretory organs.

Gen. I. *Derivants with increase of the natural evacuations* are indicated, when the natural excretions are deficient in their proper quantity, instances of which we have in the effects of laxatives in constipation of the bowels, diuretics to promote the renal secretion, emenagogues to promote the catamenia; and frictions, exercise, and warm cloathing, to promote perspiration. Here it may be remarked,

1st. That what may be justly deemed the natural evacuations are fewer than are commonly imagined; for emetics, expectorants, sudorifics and sialagogues, or such remedies as promote salivation by mercury, cannot, in strict propriety, be said to promote natural evacuations, for the discharges they promote are really preternatural or artificial.

2^{dly}. As no excretion can be promoted with any degree of certainty, unless the means indicated for this purpose act immediately upon the excretory organ; hence it is that diuretics, expectorants, and even sudorifics, very often fail

fail of their effects, because they can only act circuitously or sympathetically, and when mixed with the whole mass of blood, their powers must be much diminished before they arrive at the scene of action; or they may be totally diverted to another excretory organ: hence it is that sudorifics and diuretics sometimes purge, sudorifics and expectorants fall on the kidneys, and diuretics act as sudorifics and expectorants.

Gen. II. *Derivants with preternatural evacuations* are indicated in such diseases as cannot be so speedily or effectually relieved by only promoting those that are natural. This frequently happens in diseases which are so violent and rapid in their progress, that the natural outlets are not sufficient for the purpose of speedy relief, and especially when the quantity of the circulating blood is too large, either from plethora or febrile rarefaction; hence the use of bleeding in high fevers: but they answer a more important purpose, by diverting, very powerfully, the torrent of circulation from an inflamed or oppressed organ; and as this is a very important point of practice, I shall offer a few remarks on the effects of bleeding.

When

When an organ of importance is inflamed, the most powerful means are to be used to check its progress. This we know is more effectually done by bleeding, than by any other evacuation ; but this does not proceed so much from the quantity taken away, as its being done suddenly ; for when it flows rapidly from a large orifice, the force of the heart is, as it were, instantaneously reduced near to the natural standard, and hence inflammation has been sometimes suddenly removed by one large bleeding *ad deliquium*. This is rather mentioned by way of explanation, than to recommend the practice, except in cases of most imminent danger.

This sudden effect of large bleeding may be partly accounted for on a principle explained, Vol. I. that the bulk and heat of the blood are natural stimuli to the heart ; so, these being diminished, the force and frequency of the contraction of the heart and arteries must be diminished.

To illustrate the doctrine of derivation and revulsion still farther, we may compare the circulating fluids to a river which has a variety of streams flowing from and to it ; and to a syphon, into the lower end of which
the

the liquor flows more readily and copiously in proportion as the resistance is removed at the other. If to this idea of a mere hydraulic machine, which was chiefly adopted by the *Boerhaavian* school, we add the principle of animation, by means of the nerves, which was hardly admitted into that system; we shall form a rational theory of the operation of derivants. Thus, if the current of circulation be suddenly and rapidly determined toward a particular organ, it may, like a river, destroy its banks; to prevent which, the most rational indication will be to divert it with equal rapidity into other channels; and it will more readily return into the natural channel, when the resistance to its reflux, as in the case of the syphon, is diminished, by lessening the mass by evacuation. But should the determination or fluxion to the diseased organ have been slow, the means (some cases excepted) made use of may act more slowly: hence the distinction between great and sudden, and slow and gradual, changes, and between the terms revulsion and derivation.

With respect to the evacuation of bleeding, it may be farther observed, that whensoever

it is necessary, it ought to be used early; for delays in this instance are irreparable; as the inflammatory accumulation increases every moment.

Of the effects of this kind of revulsion, we have other instances in bleeding—from the temporal artery and jugular veins, in apoplexy and high delirium; cupping and scarification of the temples and nape of the neck, in head-ach and giddiness; scarification of other parts in fixed pains; and applying leeches to inflamed piles; perpetual blisters, and issues, as drains for the purpose of lessening afflux to weak organs, or of carrying off erysipelatous, gouty, and other *supposed* acrimonies; and blisters to the neighbourhood of pained or inflamed parts, where, by exciting a counter-stimulus and diversion, on this account they are more beneficial than from the mere discharge.

In the examples adduced above, we have instances of both species of medical derivants sudden and slow; and more will occur hereafter. It frequently happens that the powers of the constitution may be so perverted or weakened by disease, or the habits of morbid determination may be so obstinate, that

that even when a disease has, in a great degree, or totally, subsided, a restitution of the natural evacuations may not be sufficient; and the physician is often obliged to avail himself of artificial evacuations, which, if they have been established for any time, become, as it were, a part of the constitution; and I have often seen very bad consequences from stopping the drain. Whilst I write this, I am in attendance, with an eminent physician, on a patient, whose untoward and anomalous complaints undoubtedly proceed from stopping an issue.

Gen. III. Such means as excite a certain uneasy sensation in the stomach, which is usually termed sickness; hence remedies of this genus are called *nauseatives*, and, in an increased degree, excite vomiting.

I have placed this important tribe of remedies in a genus by itself, that I might have an opportunity of considering it distinctly.

The nauseaives are indicated in all cases where irregularity of the circulation, secretions, and excretions, proceeds from some considerable impediment to its due determination. I have already, Chap. II. Gen. IX. just hinted at the use of nauseaives in high

and inflammatory fevers; but they are also very beneficial in diseases of an opposite nature: their effects may be explained by an example.

If a small portion of emetic tartar or ipecacuanha be taken by a person in a fever, so soon as a nausea comes on, the pulse is reduced in point of strength, the heat is diminished, a distressing anxiety and languor is brought on; and if the sickness at stomach be considerable, a cold sweat breaks out, and the patient may even be thrown into a delirium.

Here an ungrateful sensation, propagated by sympathy from the stomach to the heart, arrests, as it were, the febrile torrent of the circulation, checks the morbid determination, resolves the spasmodic constriction of the superficial vessels, and lowers the fever nearly as much as a large bleeding; though the mode of operation is to be accounted for on a different principle; and I will venture to assert, on the authority of long experience, that the superiour success of modern practice in all febrile diseases, has been more owing to the use of this genus, than to any other circumstance of treatment; and it has even super-
seded

fed the necessity of frequent and profuse bleedings in inflammatory diseases.

Thus I have known a few doses of an antimonial, and even of ipecacuanha, gradually increased, not only abridge the term of fever, but as it were, force a crisis, by opening all the sluices at once, and producing gentle retchings to vomit, opening the belly, increasing the discharge by the kidneys, promoting a warm sweat, and, where the lungs were affected, by producing an easy and copious expectoration.

These sudden and salutary changes are totally to be attributed to the nauseative impression made on the stomach, which removing, by sympathy, the spasmodic constriction of the excretory organs, the fever ceases, not in consequence of a critical discharge of a supposed noxious matter, but solely by the impediments to free circulation, secretion, and excretion, being removed; and I am firmly persuaded that such practice, judiciously conducted, would terminate fevers in a few days, perhaps hours, which, according to a less decisive mode of management, would have been protracted for weeks. But mere protraction is not the only injurious consequence;

quence; for, as the danger increases every hour, an early check often prevents a fatal termination.

Even in simple remittent fevers, or when they are complicated with malignity or putrescency, or are rheumatic or eruptive, the nauseatives are good febrifuges; and we know that in agues, a vomit given before the access, has been of considerable use in preventing the fit.

The benefit derived from emetics in hemorrhages, when not too profuse, and in diarrhœa and dysentery, is well known, especially if they increase the determination and discharges by the kidneys, and by sweat; and this effect is produced by changing the habit of determination, and permitting the overcharged organs to recover their tone: Hence also the beneficial use of nauseatives in various affections of the lungs, as asthma, catarrh, &c. and why they are very effectual in checking the progress of an inflammatory cough, and preventing its becoming confirmedly hectic.

Antimonials are supposed to have a peculiar power in checking fevers; but the late Dr. *Lewis* of Kingston, an excellent chemist, with

with whom I sometimes had professional intercourse, asserted, that he had effected as important and salutary changes by ipecacuanha as by James's Powder, (which he strongly reprobated) or by any other reguline antimonial, and with much more safety; alledging, that it was the degree of ungrateful sensation excited in the stomach, and not the means, which produced the beneficial effect; and I am now convinced that his observation was just.

Even in diseases of the second class, which are supposed to depend upon visceral obstruction, (see p. 345 of this volume) I have seen very beneficial effects in a patient of his and mine, from repeated and daily nausea produced by one, two, or three grains of ipecacuanha for some weeks, even though there was reason to believe that there were obstructions of the liver and mesentery; and for some years past I have used the same remedy with success, in rivetted pulmonary affections, as well as those of the abdominal viscera, with or without hectic fever.

It is a singular fact, that ipecacuanha, and white and blue vitriol, lessen the emetic power of the active antimonials.

It

It is not merely sufficient that the natural evacuations should, during disease, be as regular as in health; much more is requisite; for it is often necessary to increase them considerably: hence the use of purgatives, as derivants, in fevers, inflammation, apoplexy, &c. when they act on the animated syphon as powerful revellents, and promote regular circulation, by diverting a part of the circulating fluids through some of the excretions.

With respect to various kinds of dropfy, these derivants act by promoting absorption of the extravasated fluids, by leaving more room for the ascent of the serum through the absorbent syphons, and giving it a determination to the bowels, the kidneys, or the skin.*

Gen. IV. There is another mode of diminishing morbid determination, by the more immediate action of remedies on the diseased organ. Thus indolent tumours are gradually reduced by the immediate application of those remedies called *discutients* or *repellents*; anasarca and oedematous swellings are re-

* The comparison drawn from the syphon is not philosophically accurate; but it is only introduced for the purpose of explaining the principle of derivation.

moved by frictions; and it is probable that remedies called *deobstruents* act in some such way on the internal obstructions of the viscera; though this slow mode is inferior in efficacy to the use of nauseatives, to a course of which, however, few will submit.

All external applications of this kind are strongly contraindicated, when there has been a salutary deposition made on a particular organ: hence great injury has been sustained by the use of repellents in gouty swellings of the extremities, erysipelatous eruptions, or hemorrhoidal swellings.

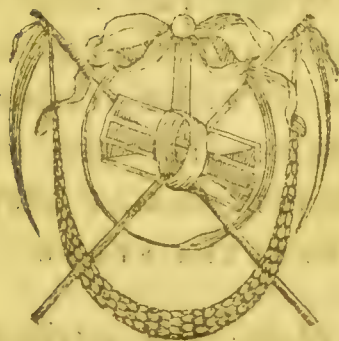
It may not be improper to attempt a theory of the operation of what are usually termed *deobstruents*. Obstructions may take place in the circulating organs, as in spasmodic constrictions, and polypous concretions in the heart and large blood-vessels; but the latter are very rare in proportion to the former. What is usually deemed chronic obstruction takes place chiefly out of the limits of the circulation, and is the effect of some perversion of the secreted humours; hence dropfical swellings, scrophulous tumours, schirrus, biliary, and calculous concretions, &c. I have remarked (Vol. I.) that
the

the useless solids are rendered fluid, and in this state absorbed and discharged from the body; and we know, from the resolution of a bruise, that the constitution has a power of absorbing coagulated blood, especially if assisted by such applications as, by a mechanical or chemical power, enable the weakened vessels to act upon the extravasated fluid, and fit it for absorption; a power which has been attributed to *attenuants*, or such remedies as are supposed to divide and give fluidity to the humours; but it is probable that deobstruents act chiefly by a salutary stimulus, by which the vessels change and absorb the extravasated fluid; possibly in both ways.

I have been more prolix in my remarks on this genus, as they explain some very important points of practice.

Gen. V. Derivants without evacuations, either natural or artificial, are sometimes indicated in diseases where the determination to certain organs is less than in health: hence the use of frictions, sinapisms, and electricity, in palsied and wasted limbs; and under this head we may bring the use of gently stimulating foods and exercise, to
promote

promote the nourishment of emaciated bodies, by increasing the fluxion to the extenuated organs, in a way similar to the action of cordials, when they change the cadaverous aspect of a fainting person to his former florid appearance.



CHAP. IV.—CLASS II.

MECHANICAL POWERS.

Dead Fibres, why so called—their supposed Irritability how accounted for—Rigidity of the dead Fibres how diminished—Laxity of the dead Fibres how lessened—Roborants what—Astringents what—Escharotics what—Anthelmintics what.

PROP. IV. WHEN THE DEAD FIBRES OF CERTAIN ORGANS ARE SO MUCH CHANGED BY DISEASE, AS TO BE EITHER TOO MUCH RELAXED OR CONSTRICTED, SUCH MEANS ARE INDICATED, AS MAY RESTORE THEM TO THEIR HEALTHY STATE.

BARON *Haller* has attributed to the muscular fibres a quality which he terms *irritability*, and which remains after death; and therefore does not depend on nervous power, but on a certain gluten which enters into their structure. This we may term a quality of the *dead* fibre; yet it is not confined to muscular fibres, but re-
sides

sides also in all the soft solids of the animal body: of this the operation of tanning leather, and the paleness of the lips when touched by a solution of alum, afford a direct proof. I shall endeavour to explain how this change is effected, when I come to the Orders.

ORDER I. *When the dead fibres of certain organs are, by disease, rendered so stiff, contracted, and hard, as to be unable to perform their motions with due facility, such means are indicated as may restore them to their due flexibility.*

The rigidity of fibres may be owing to a deficient determination and secretion of the fine fluid into the interstices of the cellular filaments which connect them, so that they are neither sufficiently nourished nor moistened; sometimes in consequence of some of the vessels becoming impervious: hence wasting and contraction of the muscles and tendons of a joint; and hence we can account for the benefit sometimes derived from warm pumping, vapour baths, &c. in such cases, which, by mechanically softening the rigid parts, open a passage for the natural fluids

fluids which had been previously shut out; or the stiffness and hardness of an organ may be owing to a concretion of the secreted fluid into a solid state, as in schirrous tumours and stiff joints.

How far may an effect, similar to that of the vapour bath, result from the liberal use of tepid watery drinks in high fevers, wherein the tension of the fibres seems to be so great as to check the internal cellular secretions? May not a general warm bath (independent of the lenient impression made on the nerves) act by its mechanically relaxing quality?

ORD. II. *When the dead fibres of certain organs are, by disease, rendered so soft, lax, and pliant, as to be unable to perform their office with due vigour and energy; such means are indicated as may restore them to their due tone and elasticity.*

That such a state of the fibres takes place, even, in some degree, in health, is evident from the difference between the firm and phlegmatic temperaments; (see Vol. I. p. 224) but this difference is greater in disease, as in a cachectic and dropical state of the body.

Gen. I.

Gen. I. *Roborants* are such remedies as are supposed to have this power; and as in this state, which is opposite to that of Ord. I. the secretion into the cellular interstices is too abundant, they may act by a mechanical power on the solid parts with which they come in contact. Frictions with the flesh brush, cold air, the cold bath, and exercise, seem to act mechanically, not only by checking this too abundant secretion, but by increasing the tension of the absorbents, and their power of sucking up from the cavities the relaxing and macerating serum. Bandages act also in this way, in reducing the swelling of an œdematous limb.

How does the *Peruvian Bark* act as a *roborant* or strengthener in diseases owing to, or connected with, the laxity of the solids? Does it act mechanically on the *dead* solids, as oak bark hardens leather? In the stomach and bowels, with the surface of which it comes in contact, it may have this effect in some degree; but when it passes into the circulation, where it mingles with a very large quantity of fluids moved on in a constant flow, from and to the heart, it cannot have time to act on the dead fibres with any degree

degree of effect, were its proportion to that of the fluids greater than it is. How then is it probable it does act? Partly at least by a mechanical power on the fibres of the stomach and intestines, which effecting a certain change on the interwoven nerves, lessens their sensibility; which change may, by sympathy, be communicated to the nerves of the more remote organs. Its mechanical action may however be greater, when it arrives in the smaller secretory and excretory organs, and, as it were, out of the tide of the circulation.

Whether this conjecture is, or is not, well founded, some practical inferences may be offered with respect to the use of this remedy, and others of this genus.

1st. If we prescribe bark as a strengthener to persons, and in diseases, in which the vital powers are languid, and the sensibility rather deficient than excessive, we shall succeed best with it if we join warm stimulants with it, to increase the energy of both the nervous and circulating system; hence the utility of joining with it snake-root, and other heating stimulants, in ague, cachexy, dropsy, and palsy.

2^{dly}. If

2dly. If it be indicated in diseases in which the sensibility is either excessive or depraved, it ought to be combined with the nervine medicines.

3dly. If indicated in fevers in which the paroxysm or exacerbation of fever runs high, and approaches the inflammatory type, the force of the fever ought to be reduced before we administer it, *even* in the remission, and even then with the cooling sedatives.

4thly. In low fevers, whether nervous, malignant, or putrid, it may be given at an early period, and accompanied with wine and other stimulants.

When remedies of this genus act mechanically on the dead fibre, they also, as has already been observed, produce an adequate change on the interwoven nerves, merely by mechanical pressure; manifest instances of which we have in the benumbing effect of a tourniquet; and relief obtained by a very irritable young lady, whom Baron *Van Swieten* ordered to be swathed: we know also that a schirrus becomes gradually less sensible, as it becomes harder.

Remedies of this genus are contraindicated in all cases where the dead solids

are rather in a state of tension than of relaxation.

Gen. II. When the excretions are morbidly increased in certain diseases, such means are indicated as, by making a change in the dead solids, may restrain them.

Remedies of this genus are commonly called *astringents*; and as they are only a higher degree of roborants, their operation may partly be understood from what is said under Genus I. On this head, however, which refers to their mechanical action, it may be observed, that by drawing together, or purging up, the mouths of the vessels, it restrains the discharge through their orifices.

It has already been remarked, in the former chapter, that morbid discharges are often successfully restrained by a counter-determination; or by diverting the fluxion from the weak organs; and this mode is much more safe and successful than the use of astringents.

The mechanical astringents are contra-indicated,

1st. From the little dependance we can have on their effect, unless by their local action on the stomach and bowels.

2^{dly}. In

2dly. In all critical discharges they may do much mischief.

3dly. Because, even in cases not critical, when they act suddenly and powerfully, they dam up or confine the humours in the vessels or excretory ducts; which are thereby oppressed, and farther weakened, by the accumulated fluids: hence anxiety and distension of the belly, when dysentery or diarrhœa are suddenly stopped, and which can only be removed by a renewal of the discharge; hence I have known fever, delirium, and, in one instance, madness, from a sudden suppression of a discharge of blood by the piles, from the humour's being determined to the brain; and for the same reason hectic sweats and diarrhœa succeed each other; the suppression of one producing an increase of the other.

Gen. III. In some diseases, a mechanical destruction of some part of the solids may be indicated: hence the use of caustics in opening imposthumations, forming drains, removing caries of the bones, or destroying fungous flesh.

Gen. IV. When certain animals are generated in the body; such means are indicated as may destroy and expel them.

Round worms and ascarides being bred in the stomach and intestinal canal, and the dracunculus in the flesh; sweet oil, mercury, tin, iron, &c. destroy them, partly by a mechanical, and partly by a chemical power.



C H A P. V.

ALTERANT POWERS.

Physiology and Pathology of the Fluids not well understood—Alterants what—those which act by Diffusion, their mode of Action—by chemical Mixture—Antacids what—Antiseptics what—Correctors of Acrimony what.

PROP. V. WHEN THE BLOOD, OR HUMOURS SECRETED FROM IT, ARE CHANGED BY DISEASES FROM THEIR NATURAL STATE, SUCH MEANS ARE INDICATED AS MAY RESTORE THEM TO THEIR HEALTHY CONDITION.

THOSE means which produce these salutary changes I term *alterants*.

A variety of names have been bestowed on this class of remedies, as diluents, attenuants, sweeteners, deobstruents, &c. most of them upon vague or false principles of analogy.

The Physiology and Pathology of the fluids, as I have remarked, Vol. I. and in several paragraphs of this, are so imperfectly understood, that very little can be said
with

with any degree of certainty concerning the changes they undergo, or how those changes are effected, by means of remedies, in diseases.

We may consider the effects of alterants on our fluids in three points of view.

1st. By mere mechanical mixture or diffusion.

2^{dly}. By chemical mixture, or assimilation.

3^{dly}. By changes made on them through the medium of their containing organs: the operation of the third order is referable to the two first classes; but as physicians are not agreed on this head, I shall offer my opinion on the subject.

ORD. I. *Alterants which act by mere mechanical mixture or diffusion.*

Gen. I. When the watery principle of the blood or secreted humours is supposed to be deficient, such means are indicated as may increase it.

Of this we have an example in the use of warm water, whey and watery decoctions of vegetables, in high and inflammatory fevers, in which the blood is supposed to be too thick and dense, and the secretions and excretions generally very sparing.

It

It is probable, that the use of what are called *diluents* may have arisen from the dense and buffy appearance of the blood in some diseases; but this is not a certain criterion of a diseased state of the fluids; for in women who are pregnant, blood taken away has almost always that appearance; and even in inflammatory diseases, the dense and buffy appearance of blood drawn depends on the size of the orifice, the temperature of the air, &c. Tepid diluting drinks may however be of ^{great service} ~~size~~ as sedatives, and as increasing the serous excretions.

Gen. II. When the watery principle of the blood, or secreted humours, is said to be too abundant, such means are indicated as may diminish it. Hence the use of gelatinous vegetables, as starch, gum arabic, and of isinglass, chocolate, sago, &c. in cases where the blood is supposed to be too thin and sharp, as in some kinds of hemorrhage, diarrhœa, dysentery, diabetes, serous catarrhal defluxions, profuse sweats, &c.

But the theory upon which these remedies are given, does not seem to be well founded. They may indeed act as *demulcents* in the first passages, by lessening irritation, as in aphthous
incrus-

incrustation; but they are totally inadequate to the purpose of making any change on the general mass of blood: hence the use of spermaceti mixtures, mucilaginous emulsions, &c. in coughs is not merely ineffectual; it is so far dangerous, as, by relying on it, the use of powerful and effectual derivants is superseded or neglected; and many have fallen a sacrifice to this trifling practice.

Gen. III. When the circulating or secreted humours acquire such a morbid consistence, as to be unable to pass with due facility through their containing cavities, such means are indicated, as may, by a chemical resolution of their constituent principles, restore them to due fluidity.

Dr. *Boerhaave* employed the theory of obstruction to account for many morbid phenomena; and supposed that gross glutinous or viscid particles stuck in the ends of the small vessels, and blocked them up. Hence *attenuants* were prescribed, not only to remove the obstructions, but to thin the general mass; as nitre, soap, &c.; but the idea of a few grains of a neutral salt being able to act upon, and attenuate, many pounds of circulating humours, is surely contrary to true
philo-

philosophy. Obstructions, as I have remarked, Chap. III. Ord. III. Gen. III. under the head of *Deobstruents*, are chiefly formed out of the limits of the circulation. Hence scirrhus and scrophulous tumours, biliary and calculous concretions, &c. With respect to the tumours, I have endeavoured to give a rational theory of the mode of their operation. With regard to calculous concretions, a new theory has been lately started concerning the operation of *lithontriptics*; but whether well founded or not, it is certain that the aqua mephitica alcalina, if it cannot dissolve large and hard calculi, certainly prevents farther accretion. It were much to be wished that we were possessed of a solvent for biliary concretions: æther and oil of turpentine combined, have been recommended; but they lie so much out of the reach of medicine, that little more can be expected from any medicine, than that it may so change the secretory vessels of the liver, as to correct the disposition of the bile to coagulation.

ORD. II. *Alterants which act by chemical mixture and assimilation.*

Manifold experiments shew that very great changes may be made by chemical mixture,
and

and it is certain that some are produced in our bodies; we now proceed to shew how, and in what degree, they may be effected.

Gen. I. When a morbid acid prevails in the stomach and bowels, those remedies are indicated which may neutralize it.

If a person swallows a large quantity of mineral acid, not sufficiently diluted, and which may act as a poison, we know that large draughts of water in which salt of tartar is dissolved, is the best remedy; as the chemical mixture converts it into an inoffensive neutral salt; and chalk or magnesia corrects the acid in the stomachs of children, and in other patients whose imperfect digestion generates a sharp acid: but in such cases they are mere palliatives; the radical cure must depend on restoring the tone of the debilitated organ; in effecting which, the elixir of vitriol, *a mineral acid*, is no bad assistant. *Antacids*, it is probable, do not, as such, act in the mass of blood. They are commonly termed *absorbents*.

Gen. II. When an alkaline and putrescent acrimony is predominant, such remedies are indicated as may correct it.—Some very ingenious opinions, lately advanced, seem

seem to contradict the idea of spontaneous putrefaction of the blood, and other humours, independent of any previous change in the solids. The truth seems to lie between both opinions; for it is not improbable that a spontaneous chemical depravation of the humours may sometimes take place, before the organs are essentially diseased; as in the sea scurvy; though, in fevers produced by putrid effluvia, the first morbid change seems to take place in the nervous system, and is soon propagated to the circulating and secretory organs; and in this case the putrescency of the fluids seems to be only an effect. Acids, vegetable and mineral, may correct putrescency in the first passages, by neutralizing the alcalino-putrescent quality of the bile and other secreted humours in the stomach and bowels; and there also bark and sweet wort, by undergoing the fermentative process, may impart a portion of fixible air to the vitiated humours, which, it is supposed, they lose by the putrescent ferment. But we know that breathing a pure and cool air, and the use of stimulants, as wine and snake-root, and of tonics, as bark and the mineral acids, are the chief remedies.

Gen. III. When the blood or humours are tainted, either by infectious communication, or by certain morbid changes taking place in the body, such means are indicated as, by a chemical assimilation, may correct the acrimony.

Thus mercurials correct the venereal acrimony; and a variety of what are called *sweeteners* are made use of to correct other depravities of the humours. But none of these, even mercury, have any peculiar power; for the lues venerea is cured by other means, beside mercury.

The celebrated Dr. *Boerhaave*, though a chemist, endeavoured to account for many of the operations and changes of the animated machine upon mechanical principles; and even at this day, such modes of reasoning are to be met with in medical treatises, though they are obviously fallacious. Experiments evince the wonderful changes which may be produced by chemical mixture, though the precise mode in which these changes are produced may not always be satisfactorily explained.

It has been remarked, (Vol. I. §. 62, page 138, &c.) from the instance of the effect of
inoculation,

inoculation, that an exceedingly small particle of morbid matter shall assimilate, or so taint the mass of our humours, as to produce millions of eruptions, each of which will afford matter for propagating a similar ferment: a wonderful proof of chemical assimilation! and upon this principle we may account how a very small portion of an alterative medicine may produce some great and extensive changes on the acrimony of our humours; and, at least, render it inoffensive. But it is probable that the chief changes in this way are not effected on the humours in the course of circulation, as the rapidity of their motion, in the vessels which convey red blood, would be an impediment to the assimilation; but rather in the lateral, secretory and excretory tubes, where the motion is more tardy, and the remedy may act in a more concentrated form.

ORD. III. *Alterants may act by changing and correcting a morbid state of the humours; through the medium of the containing organs.*

We know (see Vol. I.) that acrimony is generated in our bodies *even* by the natural and necessary operations of the constitution; and

and this very circumstance must tend to promote the assimilation and increase of any acrimonious taint that may be accidentally introduced into the habit: But it is very probable, that many faults of the blood and humours proceed chiefly from a morbid state of the circulating and secretory organs. If a person of a cachectic habit has an ulcer which discharges a thin ichor, the Peruvian bark will promote a discharge of good pus; not perhaps by any direct change made on the humours, but by increasing the tension of the solids to a degree which approaches the inflammatory state; in this way also putrescent and other acrimonies are chiefly corrected; for so long as the secretory and excretory organs do their office properly, it is scarcely possible that acrimony can subsist in the general mass of fluids to any considerable degree, unless it be communicated by infection.

C H A P. VI.

THERAPEUTIC CAUTIONS.

General Maxims for the Administration of Medicines according to—Age—Sex—Temperament—Nature of the Disease—a certain Order of administering Remedies—Rules for Choice of particular Remedies—Danger of Novelty in Practice—Rules for Doses—Times of Administration—correspondent Regimen.

PROP. VI. IN FORMING INDICATIONS OF CURE ON RATIONAL THERAPEUTIC PRINCIPLES, A VARIETY OF CIRCUMSTANCES OUGHT TO BE TAKEN INTO CONSIDERATION; OTHERWISE WE MAY NOT ONLY BE DISAPPOINTED IN OUR EXPECTATIONS OF SUCCESS, BUT THE PATIENT MAY BE IRREPARABLY INJURED.

I Shall here subjoin a few cautions which may be of use.

I. *Age.* We ought to be very sparing in the use of medicines to infants and children, and those ought to be of the mildest kind; because

because of the great irritability of the system. Old persons ought not to use drastic medicines; they are contraindicated by debility of the vital powers.

II. *Sex.* Females, from their being more irritable in general, do not bear the use of rough evacuating remedies so well as males.

III. *Temperament.* Delicate persons do not bear evacuations well. Those of a firm or plethoric habit bear bleeding better than any other evacuation; the phlegmatic bear vomiting and purging well; those of the arid habit require very mild emetics, and lenient purgatives.

IV. *Nature of the Disease.* If acute and violent, no time is to be lost; but the most powerful means must be used to prevent a fatal termination: in such cases, many are lost by a timid indecisive practice: in slow diseases there is more time for deliberation.

V. *The Order of Administration.* Where bleeding is necessary, it ought to precede the use of all other remedies; because it may render their use more safe and effectual. As the secretions and excretions are often deficient or irregular, evacuants are generally necessary at the commencement of diseases;
but

but least so in those which are purely nervous. In obstinate constipation, a purgative ought to precede the use of an emetic; —the grosser evacuations ought to be promoted before the finer: thus purgatives, if necessary, ought to precede diuretics and sudorifics; promoting the excretions renders certain powerful remedies more safe and effectual, especially opium and the bark; and under a course of alteratives, they should be occasionally interposed, to carry off those acrimonious particles which may have undergone previous correction: But they ought never to be used on frivolous occasions, or as preventives of possible disease.

VI. *The choice of the individual Remedies of the Genus indicated.* When the indications are formed, the prescriber is then to select the *indicata*, or the individual remedies from others of the same Genus: In this, some rules are to be observed.

1st. No remedy ought to be employed that has weak or doubtful powers. Were we to adhere strictly to this rule, the materia medica would be reduced to a very small compass. What can be more frivolous than prescribing drops of tinctures of valerian,

rian, castor, and saffron; or grains of contrayerva, crabs eyes, calces of antimony, æthiops mineral, calcarious earths, &c. when they may be taken in substance in doses of an ounce, without any remarkable medical effect? Would not common water, sugar, and wine or brandy, be proper substitutes for all the distilled waters, simple and spirituous, and all the syrups in the shops?

Medical men ought never to rely on set formulæ of extemporaneous prescription; but deduce the indicata from the indication.—Nothing can afford a stronger proof of a deficiency of medical principle, than servilely copying choice and infallible receipts; the mode of practice is suitable only to old nurses and quacks.*

* The great Mr. Boyle, by neglecting the study of medical principles, exposed himself to gross imposition, from the credulity or artifice of others, by adopting every trifling remedy recommended to him as powerful, specific, or infallible; and publishing them as such. This implicit confidence was certainly unworthy of so great a philosopher, and subjected him to the ridicule of physicians. Our old Dispensatories are full of prescriptions of such remedies, recommended by most ridiculous encomiums; from these the *Lady Bountifuls* transcribed very liberally into their *invaluable* receipt books; and from the same source the quacks have borrowed all their choice and infallible remedies; so that no other qualification is required to constitute a quack, than extreme ignorance and credulity, and the most consummate assurance.

2dly. If

2dly. If the ordinary routine of practice be ineffectual, it is the indispensable duty of the prescriber to adopt means, how unusual soever, that are likely to be beneficial; but he hazards much in the attempt; and may be utterly ruined by a faithful discharge of his duty. “The dunces, who are the most numerous in every profession, are always at war with genius, and watch its miscarriages with an envious malignant eye; all his prescriptions must remain on the apothecary’s file, and rise up in judgment against him; and upon any miscarriage, the outcry is raised and propagated with the utmost malignity.”* But it is not *miscarriage* alone, but even *success*, by a novel practice, that may blast the reputation of a physician. Not a century ago Dr. *Groenvelt* was prosecuted and fined for mal-practice in administering *cathartides* internally: The issue ruined the unhappy Doctor, and taught his envious and malignant persecutors the safety and value of his practice. Some years after, a very ingenious and able physician, Dr. *Thompson*†,

* The late professor *Gregory*’s introductory lecture.

† *Thompson* was an irregular, eccentric man; but whosoever has read his Consultation Cases must acknowledge that he possessed a great fund of sound medical learning, grafted on an uncommon portion of genius.

sunk under an unjust and malignant attack, on account of a supposed novel and injurious practice in the case of Mr. *Winnington*, a sub-minister, and friend of Sir *Robert Walpole*; and the late Dr. *Blair*, of *Corke*, was nearly ruined at his first outset, because he stopped a most dangerous hæmorrhage by the internal use of the *Tinctura Saturnina*.* Until Dr. *Boerhaave* hinted at, and Baron *Van Swieten* strongly recommended, the internal use of the *corrosive sublimate*; a man of less notoriety would probably have been arraigned at the Bar, if he had ventured to prescribe it in this way; and the *Blue Vitriol* was deemed only fit to eat away proud flesh, and totally unfit for internal use, until the *Baron* prescribed a preparation of it, as a valuable and safe

* The patient was an alderman of *Corke*: his physician, *Rogers*, was absent, and *Blair*, then a young man, was called in. None of the physicians would consult with him, *because he had saved his patient by poisoning him*; a paper war commenced, and the dispute ended by a reference to Dr. *Mead*, the great medical luminary of the day, who observed, that it was somewhat extraordinary that a physician should be condemned for having cured his patient by any means whatsoever. Many of the gentlemen of *Corke*, and in the neighbourhood, espoused the cause of the oppressed stranger, with a generosity and liberality of spirit which distinguishes that eccentric nation; and a circumstance which would probably have ruined him in Great-Britain, established his reputation in Ireland.

safe remedy, in some inveterate nervous diseases. Forty years ago, *Hemlock* was deemed a virulent poison; now its internal use is known to be, *at least*, safe, even in very large doses; and yet I have known more than one instance wherein a physician's reputation has been injured, because he dared to prescribe, *with success*, some of the *reputed* virulent poisons. This would not be the case, if persons of cultivated understandings would exercise their right of enquiry into the principles of medical practice.

VII. *Simplicity of Prescription.* When a number of articles is crowded into one medicine, they may counteract each other; and it will be impossible to determine to which of the articles the salutary effects are to be attributed: the slow progress of medical practice toward improvement may be partly imputed to absurd and unmeaning combinations in prescription; ignorance of chemical principles is also frequently productive of egregious blunders.

Gaubius, in his treatise *de formulis*, and *Hoffman*, vol. 5, p. 408, have made some useful remarks on prescription. There are four

parts in prescription : 1st. The *basis* is that which is chiefly depended upon, *e. g.* extract of bark. 2^{dly}. The *adjuvans*, as a decoction of bark as a vehicle to the extract. 3^{dly}. The *corrigen*s, or what makes it fit easily on the stomach, as a spirituous tincture of the bark: Here three of the four are united. The 4th is the *constituens*, or that which unites ingredients which would not otherwise mix, as yolk of egg, sugar, gum arabic, &c. by which oils are combined with a watery vehicle: but in the most simple prescription, where there is but one ingredient, that must be the *basis*.

VIII. *The Dose* of remedies ought to be accommodated to age, sex, temperament, and the nature of the disease. It is often extremely difficult to ascertain the proper dose of a remedy; for, even in the same patient, what may fail of its due effect at one time, may operate too powerfully at another. This difference of effect proceeds chiefly from the different states of the stomach with respect to its sensibility.

When great and sudden changes are to be effected, the doses of remedies ought to be very considerable: thus in apoplexy, very
draftic

draftic purgatives must be given for the purpose of making a sudden and forcible determination from the brain. In general, however, emetics and purgatives should be given in divided doses, to avoid the hazard of doing too much.

Active remedies ought always to be given in gradually increased doses, otherwise we shall often be disappointed; because, in many instances, the effect is lessened, from the nerves of the stomach, and indeed the whole system, being habituated to the same degree of stimulus.

The following Posological Table is taken from *Gaubius de Formulis*, and is very useful, though not absolutely certain.

Suppose an adult patient requires

1 or ʒi for a dose,

Then the dose for a patient

Aged 21 to 14 is 2-3ds or ʒij

14 to 7 1-half or ʒfs

7 to 4 1-3d or ʒj

4 1-4th or gr.xv

3 1-6th or gr.x

2 1-8th or gr.viii

1 1-12th or gr.v

The table does not go farther; but with respect to infants under a year, one grain may

may be deducted for every three months, and one grain may, in general, be a safe dose in the first month after birth.

IX. *Times of Administration.* It is a good general rule to give one dose of a medicine, before the effect of the former is entirely exhausted. In urgent cases, remedies ought sometimes to be given very frequently, as the Peruvian bark in dangerous tertian and quotidian remittents. When diseases have their exacerbations, or paroxysms, as in nervous or febrile maladies, the most active remedies often produce the best effects when given a short time before, or about the access; because the great and sudden change they produce, may anticipate or suspend the morbid change. When the change we expect, is to be effected chiefly by the impression the remedy makes on the nerves of the intestinal canal, it ought to be taken on an empty stomach.

X. *Correspondent Regimen.* This is fully treated of in the Essay on Regimen.

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I N D E X.

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